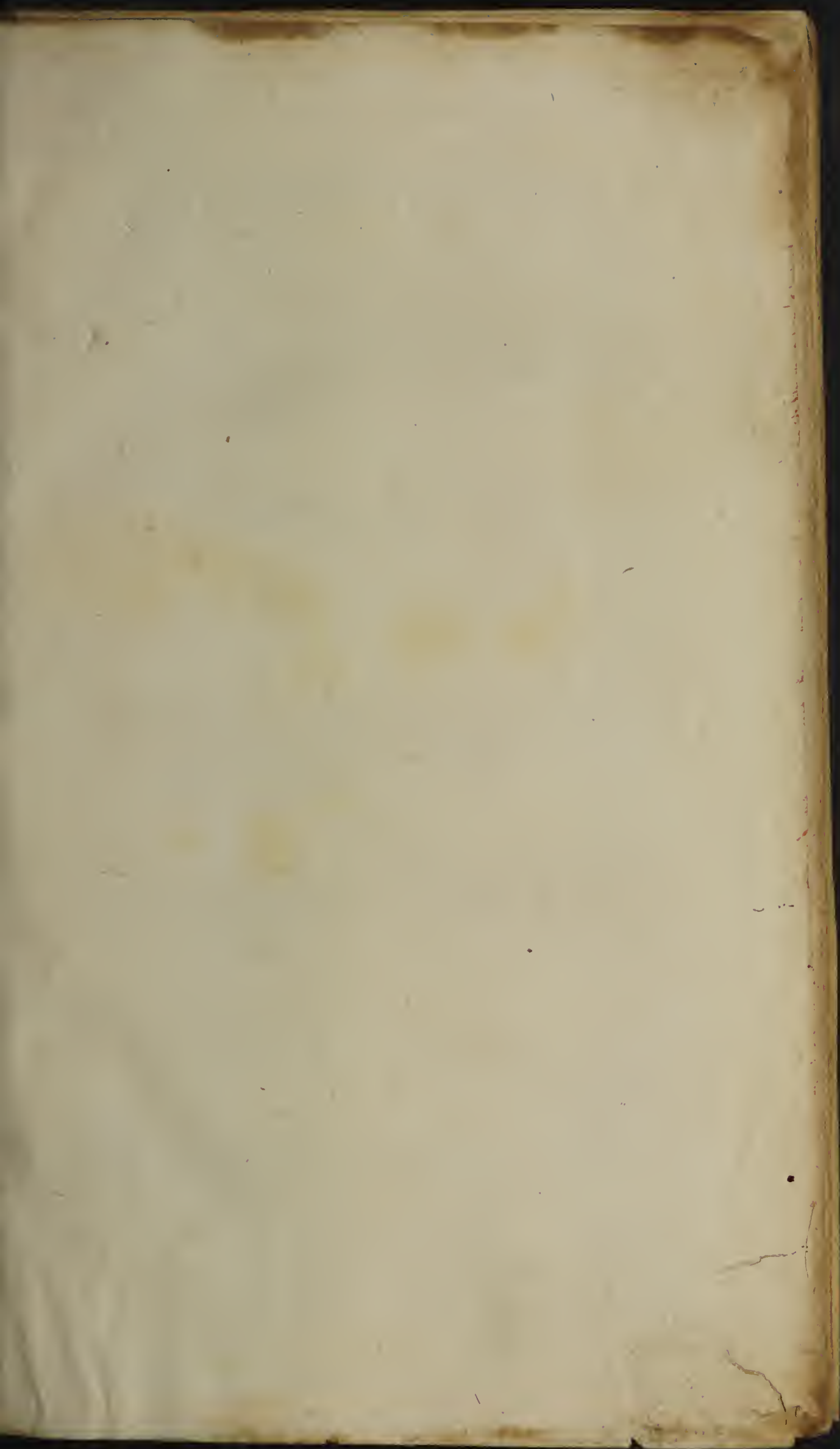


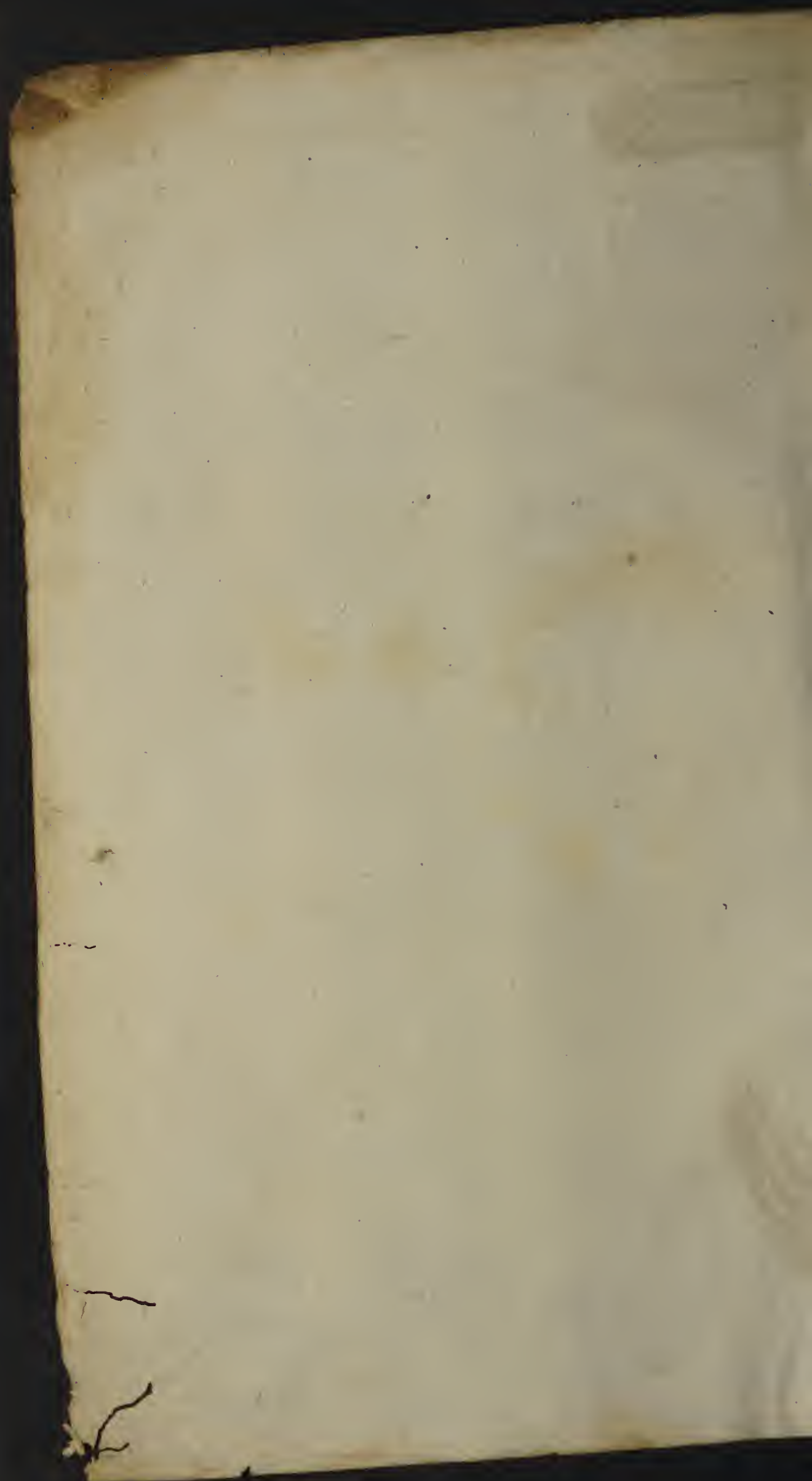






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Tractatum hunc cui Titulus

THE
PRETERNATURAL STATE
OF

Animal Humours, &c.

Dignum judicamus quæ Imprimatur.

Samuel Collins, Præses.

Tho. Burwell,
Rich. Torlesse,
Will. Dawes,
Thom. Gill, } **Censores.**

Dat. in Comitibus Censoriis
ex Ædibus Collegii nostri,
Dec. 6. 1695.



THE
Preternatural State
OF
ANIMAL HUMOURS
DESCRIBED,
BY THEIR
Sensible Qualities,

Which depend on the different degrees of their *Fermentation*. And the Cure of each particular *Cacochymia* is performed by Medicines of a peculiar *Specific Taste*, described.

To this Treatise are added

TWO APPENDICES.

- I. About the Nature of *Fevers*, and their Ferments, and Cure by particular Tastes.
- II. Concerning the Effervescence and Ebullition of the several *Cacochymia's*; on which all *Inflammations*, *Tumours*, *Pains*, and *Fluxes* of *Humours* depend; especially those in the *Gout* and *Asthma*; and the particular *Tastes* of the *Medicines* curing *Ebullitions*, are described.

By the Author of the *Φαρμακο Βελανθ*.

L O N D O N,

Printed by *W. Downing*, for *Michael Johnson*. And are to be Sold by *Robert Clavel*, *Sam. Smith*, and *Benjamin Walford*, in *St. Paul's Church-Yard*, 1696.

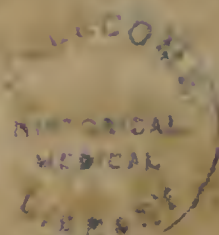
THE
HISTORICAL JOURNAL

OF THE
ROYAL SOCIETY OF MEDICAL HISTORY

AND
THE LONDON MEDICAL SOCIETY

OF THE HISTORY OF MEDICINE

AND THE HISTORY OF THE
HUMAN BODY



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OF THE HISTORY OF MEDICINE

AND THE HISTORY OF THE
HUMAN BODY

TO THE

Much Honoured

Sir Charles Holt, Bart.

at *Aston* in *Warwick-shire*.

Sir,



OUR great Skill
and Judgment in
the Practice of
Physick, is so well
known to all Your Coun-
treys, as well as to many
of the Learned'st of Our
Faculty, that I can need no
Apology

The Epistle Dedicatory.

Apology for the Dedication of a Physical Treatise to You.

If I Reflect on those Favours I have received from Your Honoured Family, they may justly claim this Expression of my Gratitude for Them: But I think my self most particularly Obliged to make this Publick Acknowledgement of those great Advantages I have had by Your Learned Conversation.

Your *Chymical* Experiments have given me clear
Notions

The Epistle Dedicatory.

Notions of the *Principles*
of many particular *Bodies*,
and their *Sensible Qualities*,
by *Anatomical Dissections*.
You have procured for
me some *Animal Humours*
to Taste and Examine; and
by Your *Microscopes*, I have
observed more of the *Con-*
sistence of Fluids than I could
otherways have known.

These *Notions* which I
here present You, were
the Subject of our fre-
quent Conferences; and I
never liked any of them so
well as those Your Judg-
ment approved of.

When

The Epistle Dedicatory.

When Your Kindness to
Your *Neighbours*, or Cha-
rity to the *Poor*, Obliged
You to prescribe *Physick*,
(which frequently You
do) I have observed,
when I was called to any
Consultation with You,
Your exact Judgment in
distinguishing the nicest
Cases, Your Rational Pre-
scriptions, grounded on
the true Indications, taken
from the History of the
particular Case, and di-
rected against the Cause
of the *Disease*; and also,
Your great Value for
Simple

The Epistle Dedicatory.

Simple Medicines, prescribed in their due Quantity; and I can most truly affirm, That a great Success always attended this rational Practice.

Sir, Your exact Judgment in *Physick* deserves the highest Expressions of Esteem from the most Ingenious Writers in our *Art*; but I must depend on that great Candor and Civility You constantly express to Our whole Faculty, for Your Accepting of the Patronage of these *Papers* which are

(a)

Pre-

The Epistle Dedicatory.

Presented by Him who
has a real Value both for
Your *Vertue* and *Learning*;
and who am,

S I R,

*Your most Humble
And Faithful Servant,*

JOHN FLOYER.

Lichfield,
July 26
1695.

T H E

THE PREFACE.

I*t is very reasonable, That the present Age should admit all the sensible Observations made on Human Bodies by the preceeding. And those it ought farther to explain and illustrate by the Philosophy of the present times; for that of every Age soon alters, and the Variety of Hypotheses, and Terms, confounds all Ordinary Readers; and the present being so extravagantly different from those of Ages very remote, the Old Authors become most unacceptable to the Moderns; but they who are conversant in all the Natural Phænomena will easily take the Sense both of the Old and New Writers, and give a candid Censure of Both.*

My Design in this Treatise, is, To explain Animal Humours by the Observations given of them by the Ancients, as well as by those Improvements made by Modern Philosophy, Chymistry, and Anatomy.

The Ancient Physicians explained Animal Humours by sensible Qualities; and also their Morbid State by the same.

(a 2)

By

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By the Touch they explained the Heat, which shews us the high degree of Fermentation in our Humours; and the Cold intimates the Depression of our Natural Fermentation.

By the same Sense they observed the Moisture, by which we understand the Fulness of the Habit of the Body, and intimates a Plethoric State of Humours; and the Dryness of our Bodies is evident in thin, lean Habits, where the Nutritious Juices are deficient.

Because a high Fermentation or Digestion may happen in a full, moist Habit, or a lean, thin One, and a low Fermentation may happen in both, they have therefore observed various Compositions of our Constitutions, not disagreeable to the Nature of them, which depend on the particular Digestion, and quantity of our Humours, and not immediately on any Mixture of Qualities and Elements; for particular Bodies, such as Plants and Animals, cannot be explained by those general Elements, which constitute the great Mass of Matter in the World; but both have their Origin from some Matter prepared.

By Fermentation or Digestion, Plants theirs from a Bituminous Nutriment; and Animals theirs from an Albuminous Liquor.

Chyle was not esteemed by the Ancients any of the Humours; but from it they deduced the several Humours constituting the Blood.

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The P R E F A C E.

The Red Part of Blood they most particularly called Blood, which tinges the whole Mass, and makes the Blood and Face florid. They described it as hot, moist, and sweet; and by these contrary Tastes, viz. the Cold, the Dry, the Bitter, they used to correct it.

The Choler they observed by the Yellowness in the Arterial Blood. They described it as hot, fiery, bitter, acrid, and dry; and to correct it, they used the Cold and Moist Tastes: But we observe, as the Salso-Acid of Urin corrects Coloquintida Bitterness, so the Salt of Blood and Chyle alters the Taste of the Choler mixed with both, and makes it sweet or insipid; and Lixiviums have the same effect on Choleric Humours.

The Bilis Nigra made the Body, and Blood, and Spleen black, cold, dry, and Humours acid; and by the warm, sweet and humid Tastes they corrected it. They observed that Blackness was given to Oyly Humours by Adustion.

Phlegm was described, as the coldest Humour, sweet, and moist, and preternaturally acid, and salt; and these they esteemed the Matter of all Defluxions, as, in reality, the lacteal and serous Lympha's be; but the sweet Phlegm is the chylous Liquor. The hot and dry Tastes are contrary to Phlegm.

(a 3)

They

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They observed, That Heat corrects Cold ; Moisture, Dryness ; and sweet and oily things, the Acerbity and Austerity of Humours.

Though the Serum and fibrous Cake of the Blood were the chief Parts of the Mass of Blood, and well known to the Ancients, yet it did not agree with their Hypothesis to make them Principles of the sanguineous Mass ; but the mentioned Humours, by exceeding in quantity or quality, produced these several Cacochymia, and Defluxions of Humours.

The Old Writers wanted a full Knowledge of Fermentation, by which the chief morbid Alterations are produced in the Humours ; and they attributed their preternatural State either to Crudity of Digestion, or Adustion.

There is a remarkable Instance in Galen, which shews most plainly a Notion, not much different from Wine, about the Preparation of our Humours, viz.

The Blood is in the midst of those Humours we call bilious ; and those whose Genus is called by one Name, the crude Humour or Phlegm ; for they are produced by over-digestion of Blood ; but these by its imperfect Digestion ; and there are innumerable differences of both kinds. And in another place he asserts, That both Biles are from an Excess of Heat, and Acidity from Indigestion, and Saltness from Putrefaction.

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A pure Temperament is only an Idæa of Fancy; but that which comes nearest to it, is the sanguineous Constitution, in which there is the most exact Digestion of Humours; and because there is also the greatest Sweetness of them, there is generally a Fulness of the Habit of the Body from the quantity of Nutriment, and a Floridity in the Face from the good Digestion of the Red part of the Blood; and here the Nutritious Humours are most free from those ill qualities, which make them unapt to assimilate, or which stimulate the Sensible Parts to evacuate them out of the Body.

The various natural Constitutions or Qualities in Wines, resemble the various Temperaments of our Humours, which, like them, depend on some certain degree of Fermentation natural to both; and because that degree of Digestion causes sometimes the watery or slimy, sometimes the acid or acerb, or the oonly Sweetness, to predominate, the Ancient Writers believed that this depended on the greater Mixture of some of the Elements.

The Crude Wines, are the Waterish, the Austere, the Acerb, the Pendulous or Slimy, the New, Sweet, Flatulent; but those Wines which depend on a very high Digestion of vegetable Juices, are the bitter Wines, the old, hot, spirituous and sharp; the fæculent, viscous or thick; the fragrant or foetid.

Many

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Many of these ill qualities are produced in Wines by long Keeping, or preternatural Preparations of them.

By a weak Fermentation a pendulous Sliminess is produced, which answers a pituitous State, or an Acerbity, which resembles the Tartar of our Humours, or Waterishness, which is like the Serosity of our Blood.

By over-Fermentation, or long Keeping, Wine becomes bitter, as the Cæcubum; sharp, as in Hock, like the vitriolic Acidity; they grow thick, like the Viscidity of our Humours; or foetid, like the putrid State of them.

These are the preternatural States of Wines, and Animal Humours, occasioned by various Fermentations, which Galen observed, when he explains the Alteration of Humours by new, sweet Wine fermenting by its own Heat; and he compares the Effervescence on the Wine to Choler, and the Fæces to Melancholy.

Many Phænomena may more easily be explained now, than they could be in former Ages, when the Circulation of Humours, the fermentative Dissolution of our Meats, and the Defluxions through particular Glands, were unknown.

The Motion of particular Humours was accounted for, by the Old Writers, by the Attraction of Parts, which drew their like; but the Pulse, which circulates several Humours,
as

The PREFACE.

as well as the Blood, better explains all the Motion of Humours.

Galen observes Two Species of Styptics; and that the Styptic Quality is greater in the Acerb, than the Austere; but the Explication of the Virtues of Specific Medicines he imputes to their Substance, which may be more easily made by the particular Taste of them, which raises or depresses the Fermentation of Humours, and they frequently have a Similitude or Contrariety to the Secretitious Humours in Taste and Quality.

The Ancients imputed Sanguification to the Liver; but we, more properly, to the Gall, and a Mixture of the Salt Lympha's, and also a long Circulation with the Blood it self.

The Digestion of Meat was explained by Heat, which the Moderns more clearly deduce from a Fermentation which half putrefies the Food, and dissolves it out of its hollow Fibers, whether they be Animal or Vegetable; for it is their Juyces chiefly which are our Food; for the solid Parts turn into Excrements.

But the best Explication we can yet give of the Vital and Animal Spirit, is not much different from that of Galen, who affirms, That the Vital Spirits are bred in the Arteries and Heart, and that the Matter of them is from the Air inspired, and the Vapours of the Blood,
and

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and that the Animal Spirits are made out of the Vital.

This Hypothesis is more fully explained in another Book ascribed to Galen, de usu Respirationis; Constat autem vires corporis esse ex nervorum tensione, causa autem tensionis nervi nulla est alia quam spiritus nervum inflans — spiritum autem voca, non solum vaporem sanguinis, sed etiam aerem inspiratum, qui ei admiscetur.

The innate Heat differs not from the Vital Spirit, which he deduces from an unctuous Humour in the Blood, after the same manner as Flame is produced from the Oyl of a Lamp, and both are in a continual Motion, like the Water of a River.

*All the Eructations he imputes to the Air, which, mixed with our Meats, create Wind, and this Air passes included in the Pores both of our solid and liquid Meats; and this, upon Fermentation of our Food, is intermixt with its light or volatile Parts, and gives them that Elasticity observable in all fermented Liquors; and these Elastic Particles give a strong Pungency to the Taste, and a strong Odor to the Smell: These rarefie fermented Liquors into Bubbles, and give the great force in breaking their Vessels; and these easily evaporate into Air, having that naturally in their Mixture;
but*

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but that the Spirits are not purely Aerial, is evident, because they both Smell and Taste of their Vegetable. These Spirits we artificially separate in Distilling Brandy Spirits, which are evidently light, only Parts mixt with a volatile Acid.

Windy Spirits we commonly experience upon the Digestion of our Meats in the Primæ Viæ, and there we feel Inflations, and find windy Bubbles in the Contents of the Intestines; and we observe no Liquor so full of them, as the fermented be.

All spirituous Liquors of Vegetables inflame our Animal and Vital Spirits, by producing an Effervescence and Heat in the Blood, and some Affection in the Nerves, of Tremor, Stupidity, or Giddiness. And since our Juyces are made of the Vegetable, they are probably fermentiscible like them.

The Semen puts Females into a Fever upon Impregnation; and all Animal Humours which poyson, are putrefying Ferments. The Eggs of Insects ferment the Juyces of the Plants, into which they are inserted; and there are many Poysonous Plants which certainly affect both the Blood and Spirits of Animals, which produce both Fever and Delirium. The greatest Poyson for Darts, is believed to be made of putrid Humours.

It

The PREFACE.

It seems impossible to the Ancients, to impute the sudden Running of Pains to any other Cause ; but some of our Humours rarefied into Spirits, or Vapours. Melancholy Distempers are deduced from Spirits drawn from that Cacochymia. The Phrenitis from Choleric Spirits, and the Epilepsie from Fumes.

As to the use of the Brain, Galen observes, That the Skins, and outward Part of the Brain, may be cut away without loss of Sense or Motion ; but when the Medullary Part of the Brain or Nerves is wounded, both perish.

He asserts, That the Nerves bring the Faculty of Motion to the Muscles, by this Experiment ; If a Nerve be cut, or the Spinal Marrow, all the Parts below the Incision lose their Sense and Motion, but those above preserve it.

He was as much perplexed about the Porosity of the Nerves, as the Moderns ; but neither can otherways explain the Diseases of the Nerves, than by supposing some Aerial, and innate Animal Particles, like Vapours, passing through the Nerves, to give them a Tension. And as no Age could ever doubt of the Passage of the Chyle into the Blood, before the Discovery of the Lacteals ; so we are forced to confess the Contents of the Nerves, though we can no way discern them ; for, upon the Death of an Animal, the Spirits may readily sink into the Muscles,

or

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or Veins, or Lymphatics, and Glandules; or else be so Aerial, as many Liquors be, which evaporate upon the least approach of Air; or else their Minute Canals suspend their Liquors, as small Glass-Pipes do: But it seems most probable, That proper Experiments have not yet been made, by Ligature or Incisions, in Living Animals, which might demonstrate the Nervine Lympha; and it is impossible, at present, for us otherwise to explain the Nature of the Spirits, than by comparing them to Air or Fire, till we can, by some lucky Experiment, discover the Contents of the Nerves, and their particular Qualities.

I have added Two Appendixes to this Treatise of Animal Humours; The First describes the Nature of Fevers, and their Ferments; and the Second deduces many Diseases from the simple Ebullition, Effervescence or Orgasmus of the Blood, on which most Inflammations, Tumours, Pains, and Fluxes of Humours, depend; and without a due respect to that Effervescence, none of the mentioned Diseases can be rationally cured. In the ensuing Treatise I have endeavoured to explain the Opinion of the Ancients, in all their Discourse of Fevers; but we are obliged to the Ingenious Car. Piso, for giving the first hint of Diseases depending on an Effervescence of the Serum;
but

The PREFACE.

but that wanted a farther Explication, because he knew not the Circulation of Humours, nor the Use of the Glands, nor the true Nature of the Serum of the Blood, and that the Effervescence is in the Mass of Blood, and the Serum has only a violent Motion given by the Ebullition, which forces it to pass those Glands, through which the Fluxion is made; and that Pains cause Fluxions, only by stopping the Circulation of Humours, by contracting the Vessels, by help of the Convulsed Nerves; and that all Tumours happen by the Obstruction, or Stagnation of Humours in the Circulating Vessels.

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What

What Mistakes have happened I desire may be corrected by the Errata's here annexed.

PAg. 11. l. 2. it ought to run thus, *The Fat is produced from the Buttery part of Chyle.* p. 26. after, and that depends on, is omitted in the last Line *secretitii.* 33. l. 18. the stop after *sometime.* 43. l. 6. *so they are,* r. *which are.* l. 11. *cold not old.* 44. l. 21. *dele as in Rhue.* 45. l. 2. r. *Cure* instead of *are.* l. 11. *one drachm* not *one Ounce.* l. 19. *Catchup,* divide it from *Mango.* l. 48. omit the Comma betwixt *Milk* and *Water.* 49. l. 13. for *which Flames,* r. *with Flannel.* 53. l. 10. *dele so.* 66. l. 18. r. *pungent.* 83. l. 25. r. *compare.* 95. l. 21. r. *Hog Fenil.* 96. l. 20. r. *acid* not *acrid.* 102. l. 16. r. for not *fat.* 107. l. 25. r. *rapid.* 112. l. 22. r. *fat Cows,* not *Faulcon.* 114. l. 14. r. *Flowers,* not *Flames.* 117. l. 10. *no breach.* 127. l. 15. r. *soon,* not *some.* 129. l. 1. r. *the.* 155. l. 24. r. *are.* 157. l. 17. r. *preter,* not *pretty.* 171. l. 8. r. *Stomach,* not *Sumach.* 181. l. 2. r. *Onions,* not *Crocus.* 188. l. 24. r. *from,* not *above.* 199. l. the last. r. *Aq. Panatae.* 191. l. 1. r. *mild,* not *wild.* 202. l. 1. *Disqualegr.* 206. l. 22. *dele as.* 208. l. 28. r. *of,* not *or.* 209. l. 21. add *less.* 211. l. 11. r. for, not *so.* 224. l. 2. r. *Bursa pastoris.* *dele and.* 260. stop after *Italy,* *the,* not *they.* add *of* after *use.* 261. l. 6. r. *Oxymels.*

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T H E

Preternatural State
O F
ANIMAL HUMOURS
described, &c.

C H A P. I.

*Of Diseases in General, and
particularly of those of the
Solid Parts.*

TH E Ancient Doctrine of *Hippocrates*, divided the Parts of an *Animal*, into the *Containing* and *Contained*: The *Containing* are the *Vessels*, and the Parts *Contained* are the *Humours*, amongst which we reckon the *Spirits*, which are also of a *Fluid Nature*.

The *Anatomy* of an *Embryo* evidently confirms this *Doctrine*; for at its first formation and increase in the *Egg*, there appears nothing but *Humours* and *Membranes* containing them, which are plainly of a *Nervous Nature*.

A

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The first *Stamina* which appear in an *Embryo* after Incubation, are probably the *Arteries*, which have some *Pulse*; and from these arise all the *Viscera* and *Vessels*, as *Veins*, *Lymphatics*, *Nerves*, and *Glandules*.

The *Veins*, in which the thicker Mass circulates; the *Lymphatics* into which the *Serum* of the Blood is received from the *Arteries*: The *Glands* (which are *Conglomerate*) are *vascular*, and are prolongations of the *Arteries* designed for the secretion of *Humours*; the *Brain* is also *vascular*; and the *Nervous Fibrillæ* also, like the other *Lymphatics*, receive a clear *Lympha* from the *Arteries*, and seem to return their *Nervous lympha* by the *conglobate Glands* into the *Lymphatics*; the substance of the *Spleen*, *Kidneys*, and *Liver*, is also *Glandulous*, arising from the *Arteries*.

Since the *Arteries* not only appear first in an *Embryo*, but also they supply all the other *Vessels* with their several *Liquors*, I do not improbably assert, That they are the Root of all the Animal *Vessels* and Solid Parts.

The *Fibrillæ* of the Brain compose the several *Membranes* of the Body, which cover the *Vessels*, *Viscera*, and constitute the substance of the *Lungs*, *Guts*, *Stomach*, *Skin*; and the *Flesh* of all the *Muscles* is made up of these *Membranous Fibers*, which their *Membranous Tendons* evidently prove. Nothing is observed

ved in an *Embryo*, more hard, firm, and solid, than its *Membranes*; so that its *Bones*, *Teeth*, *Nails*, *Hair*, and *Horns*, were at first tender *Membranous Fibrillæ*, stuffed with a *viscid Nutriment*, from which they have their *rigidity* and *hardness*; so the *Woody substance* of *Vegetables* is only a bundle of hollow tender *Pipes*; and after the same manner the solidity of the parts of *Animals* may be produced.

By the preceeding Description we may observe, that all the Parts of the Body are originally of the same *Membranous* or *Nervous* Nature, and therefore they are really to be accounted *Similar*, and from the various conformation of the *Similar Parts*, and their complications, arise all the *Dissimilar Parts*; so from the *Veins*, *Nerves*, *Bones*, *Membranes*, all the *Organical* Parts are framed, which are designed for sensible Impressions, as the *Eye*, or *Ear*, &c. or some *Animal Motion*, as the *Muscles*; or the Preparation of the *Animal Humours*, as the *Stomach* and *Guts*; or the *Secretion* of them, as the *Glandulous Viscera*.

Since all the *Animal Parts*, are either *Vessels* which make the *Solid Parts*, or else *Humours* and *Spirits*, which make the *Fluid*, I will divide all the Diseases of an *Animal* according to those Parts; viz. into,

1. The Diseases of the *Solid Parts*.
2. The Diseases of the *Humours*.
3. The Diseases of the *Spirits*, which are the most *Fluid*, or *Aerial Parts* of our *Humours*.

1. The *Intemperies* of the *Solid Parts*, depends on,

1. The *Humours* circulating through them, as the *Blood* and *Spirits*, and they communicate either a sense of *Heat* or *Coldness* to them. A dry *Intemperies* is only a defect of the *Nutritious Juices*, and a moist *Intemperies* a fulness of the *Nutritious Liquor*.
2. The *Humour* which nourishes the *Solid Parts*, must give them their quality with their *Nutriments*; an oily hot *Blood* will give a *Nutriments* of the same quality: An *Acid Nutriments* will produce a *Coldness* in the *Parts*, a *Viscid Nutriments* gives a *Dryness*, and a *Serous* an *Hydropical Humour*. And since the *Intemperies* depends on those *Humours*, the correcting of their several *preternatural States*, cures all these *preternatural* dispositions of the *Similar Parts*; for these may be esteemed as *Symptoms* depending on the other, and need not be more particularly Treated of. But I will only add, that the *Transient Intemperies* depends on the circulating

culating Humours, and is soon altered, but the *permanent*, which depends on *nutriment*, more difficultly.

2. The due Magnitude of a Part, is either increased by too much *Nourishment*, or by fulness of *viscid Humours* impacted, and the due natural Magnitude is abated by the defect of the *Nutriment*, or the obstruction of the Vessels by *viscid Humours*; so that this *Species* of the *Diseases* of the *Solid Parts*, depends on the different state and motion of *Humours*, and that being altered, the *preternatural Magnitude* is Cured.
3. The natural *Cavities* of the Solid part or its Vessels, are chiefly obstructed by *viscid* or coagulated *Humours*, and on them depends the Cure of *Obstructions*, which also sometimes depends on an *External Tumour* compressing the Vessels, or the growing together of its Vessels after an *Ulcer*.
4. The *Tone* of a Solid part is altered by the *Relaxation* of its *Nervous Fibers*, which happens through defect of the *Spirits*, or the obstruction of the Vessels by *viscid Humours*; and therefore this *Diseased State* is cured by supplying the quantity, or altering the quality of the *Humours*. The curing of the vitiated

Tone of a part which depends on too much *Extension*, or *Humidity* of it, belongs to *Chirurgery*.

5. The *Continuity* of the *Solid Parts* is vi-
tiated by the *Plethora* of *Humours*, which
burst the *Vessels*; or the *Corrosive* quality,
which eats them. The Cure of Wounds
properly belongs to *Chirurgeons*.
6. The Natural and voluntary Motion of
Parts depends on the Influx of *Spirits*,
and other right dispositions of the *Organs*,
so that all *preternatural* alterations of
Motion, whether increased, lessened,
depraved, or abolished, depend on the
different disposition of *Organs* and Mo-
tions of the *Spirit*, and by rectifying
them are Cured.
7. The Pain of the *Solid Parts* is the *corru-
gation*, or violent *agitation* of their *Fibers*
when the *Spirits* are *irritated* by sharp
Humours, or the Motion of *Humours*
obstructed; from *Choler* is a hot Burning
pain; a cool gnawing pain from *Acid*
Melancholy Humours; a *Corrosive* pain,
neither Hot nor Cold, from the *Salso-
Acid Serum*; a *Distending* pain from ra-
refied windy *Spirits*; a Heavy Pain from
Pituitous Humours; a Beating pain from
the *Pulse* of the *Artery*; a *Tensive* pain
from the distention of the Parts by the
fulness

fulness of *Humours*. These Diseases from Pain are onely Cured by evacuating the quantity, and altering the quality of the *Humours*. All other Pains depending on external Objects, relate to *Chirurgery*.

8. The Natural Figure of the *Solid Parts* may be altered, the Cure of which belongs to *Chirurgery*, when it does not depend on the fulness or vitious State of *Humours*.

9. The number of Parts exceeding or deficient, is properly supplied or abated by *Chirurgery*.

10. The undue Situation or connexion of Parts in *Fractures*, *Luxations*, *Hernia's*, or the *Prolapsus* of the *Anus* or *Uterus*, are to be rectified by *Chirurgical* means.

These are the chief *preternatural* Indispositions of the *Solid Parts*, which hinder their Use and Actions; and they are called the Diseases of the Solid Parts, or alterations from their Natural Constitution, State, or Qualities; and I have observed, how far each of them depends on the *preternatural* State of *Humours* as their Cause, that they may be more easily Cured by removing that, and that the Species of Diseases might not unnecessarily be multiplied, but reduced to the fewest Heads.

C H A P. III.

*Of the Preternatural State of
the Humours, or the Dis-
eases of the Fluid Parts.*

TH E *Fluid Part* of an *Animal Body* is usually called the *Humours*, with which not only the *Sanguineous*, or *Chyle*, or *Lymphatic Vessels* do abound, but also all the *Nervous* and *Membranous Tubes* or *Fibrillæ*, which are filled with a *Spirituos Liquor*, which is the *Vehicle* of the *Animal Spirits*, and many other *Humours*, secreted by their peculiar *Glands* from the *Blood* or *Chyle*, are contained in their *Vessels*, or rejected by *Nature* out of the *Body*. Although these *Humours* be of different kinds in an *Adult Animal*, yet whilst the *Animalculum* begins to increase in the *Egg*, they all have their *Production* from the *white* of the *Egg*, colliquated by the heat of the *Hen*; and that *Liquor* which begins to circulate is *white* and *serous* at first, not unlike the *Albuminous Nutriment* by which it is Increased, but by the digestive heat of the
Hen.

Hen, and the long circulation, the several *Parts* of the *Sanguineous Mass* are produced.

The *Fibrous Parts* of the *Blood* are produced from the *Viscid Particles* of the *Albuminous Liquor*, which, upon boiling, are made *thick* and *white*, of which Colour the *Fibers* of the *Blood* appear when they are washed with *Water*.

The *Red Part* of the *Blood* is from the *Oily* and *Acid Parts* long digested into a *Purple Colour*, and that tinges the whole *Mass* of *Blood*.

The *Serum* or *watery Vehicle*, in which the other *Parts* swim, is only the *Albuminous Liquor* less digested.

The *Secretitious Humours* of *Animals* arrive not at their Perfection in an *Embryo*, till after a long *Circulation*, *Digestion*, and *Volatilization* of their *Principles*, for their *Spirits* are *poor* and *phlegmatic*, their *Choler* but a little *bitter*, nor their *Lympha* very *salt*, nor their *Blood* much *vitriolic*; for these *Qualities* are the *Products* of a stronger *Heat*, and a longer *Digestion*.

In an *Animal* brought forth, the *Chyle* is the first and original *Liquor*, from which the *Blood* receives its several *Parts*.

1. Its *Fibrous Parts* are from the *Caseous Parts* of *Chyle*.

2. Its

2. Its Oily Red Part from the *Butyrous Parts* of *Chyle*.

3. Its *Vitriolic Acid* from the *Acid Tartar* of *Chyle*.

4. Its *Serum* is the *Chyle* it self in a middle state betwixt *Chyle* and *Blood*, whose *waterish Particles* are the same as was in the *Chyle* it self.

These are the *Principles* of *Animal Humours*, out of which all the several kinds of them, according to their several degrees of *Digestion* or *Mixture* of those *Principles*, are naturally constituted and distinguished from one another.

These following *Humours* are separated from *Chyle* it self, by the *Conglomerate Glands*, and therefore have the same *Mixture* of *Principles*, and a like *Digestion* as the *Chyle* it self.

1. The *Spittle* and the *Pancreatic Juice*, whose *Chylous Lympha's* agree in their *Use*, *Colour*, and *Glandules*.

2. The *Lympha* of the *Guts* and *Stomach*.

3. The *Mucus* of the *Wind-Pipe* and *Nose*, and many other *Cavities*, as that of the *Joynts*, is of a more *Viscid Consistence*, useful for the defending the *Membranes* of those *Parts*.

4. The *Spirituos Lympha* of the *Brain*, *Eyes*, and *Nerves*, serving for a *Vehicle* of the *Spirits*.

5. The *Milk* in the *Breasts*.

6. The

6. The *Seminal Lympha's* in both Sexes.

7. The *Fat* ~~of Chyle~~ is produced from the *Buttery Part* of *Chyle*.

From the *Serum* of the *Blood*, is produced the *Salt Lympha*.

1. The *Lympha* of the *Lymphatics*.

2. The *Nutritious Juyce* in the *Amnion*, which is *Saltish*, and is designed for the *Nourishment* of the *Embryo*.

3. The *Salt Lympha* in the *Pericardium*, necessary for the *Motion* of the *Muscles* of the *Heart*.

4. The *Salt Lympha* of the *Eyes*.

As the *Milky Lympha's* are designed chiefly for the producing of the *Chyle*, which is the first *Digestion* in an *Animal*; so the *Salt Lympha's* are designed for the turning of it into the *Serum* of the *Blood*, by its *Saltness*, which must be esteemed the second degree of *Digestion* in *Animal Humours*.

The third *Digestion* is when the *Serum* is fully sanguified, and the *Secretitious Humours* prepared, which require the highest *Digestion*, as the *Spirits*, the *Semen*, the *Choler*, and the *Vitriolic Acid* of the *Blood*.

From the *Blood* it self well digested are separated these two *Humours*.

1. The *Choler*, which is precipitated from the *Blood* by the *Vitriolic Acid* of the *Spleen*, and was its *Oily* and *Red Part*.

2. The

2. The *Sub-acid* and *Slimy Humour* of the *Spleen*, which is separated by the *Spleen* from the *Viscid* and *Vitriolic Particles* of the *Blood*; and this chiefly serves the Separation of the *Choler* from the *Blood*; but the *Choler* is designed for the correcting the *Crudities* of the *Chyle*; and by this means the *Liver* sanguifies, and helps *Chylification*.

I have given this large Catalogue of the *Animal Humours*, that the original *Liquors*, from whence each *Secretitious Humour* is prepared, may be observed, upon whose healthful Constitution the perfect natural Temper of each *Secreted Humour* depends.

It would cause endless Repetitions to treat of the preternatural State of each *Secreted Humour*, for they have the same as their original *Liquors*, which are the *Chyle*, the *Serum*, and the *Blood* it self.

1. The *Chyle* must be well prepared by Fermentation from proper Food, and acquire that degree of Fermentation which is natural to each *Animal*.

2. The *Chyle* ought to be well changed, and digested into *Serum*.

3. The *Serum* must be truly sanguified by a long Digestion.

4. The Quantity of *Humours* ought to be proportionable to their *Vessels*, and to be contained in them.

5. *Humours*

5. *Humours* ought to have their natural Circulations, as the *Blood*, the *Lympha*, and *Spirits*; and the *Secretitious Humours*, their full Secretion; and those that be unuseful, their expulsion out of the *Body*; and those that be useful, their return into the *Blood*, as their common Ocean; or to be preserved in their several *Vessels*.

These are the natural States of the *Humours*, which are necessary for the healthful Constitution of *Animals*, and the contrary to those many Alterations from them in an unhealthful or a diseased State; of which, I shall make the following Scheme.

First, If the *Animal Humours* are ill prepared or digested, or fermented to any degree below their natural State, some of the cold *Cacochymia's* are produced; of which, I shall reckon these several degrees.

1. A *Mucilaginous* State of the *Chyle*, or other *Humours*, and this is what is commonly called the *Pituitous Cacochymia*.

2. The *Tartareous* or *Acerb* State of *Chyle*, or other *Humours*, and they appear in Bodies subject to *Sourness*, and is a higher degree of Digestion than the *Pituitous* State, but both stand below the natural Digestion or Fermentation of the Meat.

3. A

3. A *Flatulent* Temper or State of the *Chyle*, or other *Humours*, when the *Spirits* of the *Chyle* are begun to separate, and have half fermented the *Chylaceous Mass*, and then it has the State of *New Drink* not fully ripened by Fermentation.

4. A *Serosity* of *Blood* is the natural consequent of a *Mucilaginous*, *Tartareous*, or *Flatulent Chyle*.

Secondly, If the *Chyle* be over-fermented or digested too much, it becomes *Bitter*, *Acrid*, *Rancid*, or *Putrid*, for we often perceive the *Meat* in the *Stomach* either *Burning*, or *Bitter*, or *Oily*, or *Stinking*; and from this State of *Chyle* are produced these several degrees of the hot *Cacochymia* in the *Blood*, and other *Humours*.

1. A *Bilious*, *Bitter*, *Acrid* State of *Humours*; and this is known by the Bitterness in the *Stomach*, and the Abhorrence of bitter things, and the continual Heat in the Habit of the Body, as well as the Passions of the Mind, as Anger, Revenge, Courage.

2. A *Viscid* State of *Blood*, which produces *Pains* and *Inflammations*, and is evident upon *Bleeding*, when there is a defect in the *Serum*, or a *Viscid* Consistence of the *Chyle*, upon the top of the *Blood*, which is called its *Siziness*.

3. The

3. The *Vitriolic* Acidity of the *Blood*, which appears by any black *Humour* evacuated, and by the Affections of Fear and Sadness.

4. The *Serum* of the *Blood* acquires a *Salt Acrimony*, which corrodes and eats the *Gums*, infects the *Skin* with Spots, and is the *Hot Scurvey*.

5. The Putrefaction of any *Humour* is the highest resolution or dissolution of its *Principles*, from that State and Mixture which made it the *Humour* of a particular *Animal*; of which, these several Species are very evident;

1. *Diseases* depending on an inward Ferment, altered by the ill use of the Six *Non-Naturals*, as *Fevers* intermitting, with the several *Symptoms* attending them.

2. Those *Diseases* which depend wholly on an outward Ferment received into,

1. The *Flesh*; as *Hydrophobia*, by the Bite of a *Mad-Dog*; or the Poyson of any *Venomous Animal*, by its Bite or Sting.

2. The *Serum*, by the Infection of the touch of a *Salt Humour*, to which the *Morpheus*, *Scab*, *Pox*, and *Scald-Head*, are referrable,
and

and *Leprosie*; all which are in some measure Infectious, by a *Corrosive Humour*.

3. All *Venomous Medicines* which corrode and ferment the *Humours*, become Poysonous to the *Animal*.
4. All *Malignant Fevers*, as the *Small-Pox*, *Measles*, and *Plague*, or *Pestilential Fevers*, have their original from the *Malignity* of the *Air*, and the *Poysonous Sulphurs* of the *Earth*.
5. *Worms* and *Lice* are either produced by an *Egg* received into the *Animal*, or the *Putrefaction* of its *Humours*.

Thirdly, If the *Chyle* be very plentiful, it breeds the following Diseases.

1. An over-abundance of *Milk* in the *Breasts* of *Women*.
2. A *Satyriasis*, or an abundance of *Seminal Lympha's*.
3. A *Fatness*, or over-growing of the habit of the *Muscular Flesh*, or the great quantity of *Fat*, both which is called an *Obesity*, or too *Fat*, with an abundance of the *Chylous Lympha's*.
4. An undue increase of the *Viscera*, or other *Parts*, whilst the others decay, as in the

the *Rickets*, and the *Imposthumations* of the *Viscera*, especially the *Liver*. The *Rickets* are a Species of the *Palsie*.

5. A *Plethora* of Blood.

Fourthly, If the *Chyle*, or other *Nutritious Humours*, be wanting or deficient, these several kinds of Defects are produced.

1. A Defect of *Milk* in the *Breasts*.
2. A Defect of the *Semen* in *Sterility*.
3. An *Atrophy* of the *Body*, or any part of it, or the *Viscera*.
4. A Defect of the *Saliva* in *Thirst*.

The following Diseases depend on the vitiated Motion of Humours.

All Obstructions depend on the stoppage of the Motion of the *Animal Humours* through their *Vessels*.

I. The Obstruction of the *Chyle-Vessels*, which produces the *Tumours* of the *Mesentery*, and its *Glands*.

II. The Obstruction of the *Blood-Vessels*.

1. As in the *Polypus*, and suffocating *Catarrhs*.

2. The Reflux of *Blood* is stopt in *Inflammations* and *Tumours*, *Varices*, and *Hæmorrhoids*.

III. The Secretion of *Humours* through their several *Glands* is hindered.

1. In the *Jaundice* the *Choler* is hindered from its Secretion.
2. In the Diseases of the *Spleen* the Separation of the *Vitriolic Slimy Humour* is stopt, and that evacuated into the *Stomach*.
3. The Secretion of the *Salt lymph* is hindered in the *Scrophula*, and in *Catarrhs*; or else of the *Milky lymph's* in the cooler kind, and in the *Tumours* of the *Breasts*.
4. The Secretion of *Animal Spirits* is hindered through the *Glands* of the *Brain*:
In *Apoplexies*, *Lethargies*, or any other sleepy Distempers.

Fifthly, The Motion of the *Animal Humours*, which are excrementitious, are suppressed in the following Diseases.

1. In an *Ischuria*, which is a Stoppage of *Urine*.
2. In a want of *Stools*, or *Astrictio Alvi*.
3. In the stoppage of *Transpiration* or *Sweat*.
4. In a Suppression of the *Menses*.
5. In a Suppression of the *Lochia*.
6. In the long retaining of a *Mela*.
7. In the Suppression of the *Hæmorrhoids*.

Sixthly, The preternatural Evacuation of *Nutritious Humours* out of the Body, are,

1. By

1. By a continual *Vomiting*.
2. By a *Diarrhæa* or *Looseness*.
3. By a *Diabetes*.
4. By a *Ptyalismus*.
5. By a *Gonorrhæa*.
6. By the *Fluor Albus*.
7. By too much *Sweating*.
8. By an *Abortion*.
9. By an *Epiphora* or *Flux* of Tears.
10. Incontinence of *Urin*.

These are the *Fluxes* which cause *Diseases*.

Seventhly, The Evacuations of *Blood*, are,

1. The *Bleeding* at *Nose*.
2. *Spitting* of *Blood* from the *Throat* or *Lungs*.
3. The great *Flux* of the *Hæmorrhoids*.
4. The *Flux* of *Blood*, like the washing of *Meat*, in *Fluxu Hepatico*.
5. Too great a *Flux* of the *Menses*.
6. The *Pissing* of *Blood*.
7. The *Vomiting* of *Blood*.

Eighthly, The preternatural Evacuation of *Serous Humours* into the *Cavities* of the *Body*, are,

1. In an *Ascites*, when the *Water* fills the *Cavities* of the *Belly*.
2. In the *Dropsie* of the *Breast*, or *Head*, or *Testicles*, it fills those particular *Cavities*.

3. In an *Anasarca* it fills the *Muscular Habit* of the Body.

These *Diseases* depend on the vitiated Motion of *Animal Spirits*, and their preternatural Qualities.

First, The Motion of the *Animal Spirits* is stopt in the *Nerves* by the Viscidity of their *Succus Nervosus*.

1. In those belonging to half the *Body*, or the whole, in *Palsies*.

2. In those belonging to the *Heart*, or *Pulse*, in *Fainting*, or *Syncope's*.

3. In the *Nerves* of the *Eyes*, in a *Gutta Serena*.

4. In those of the *Ears*, in a *Deafness*.

5. In those of the *Tongue* and *Nose*, in the loss of their *Smell* and *Taste*.

6. In those of the *Stomach*, in the want of *Appetite*.

7. In the *Nerves* of the *Generating Organs*, in *Venere languida*.

8. In those of the *Oesophagus*, in *deglutitione impeditâ*.

Secondly, The Motion of the *Animal Spirits* into the *Senses* is continued longer than usual, and this *Expansion* is called *Vigiliæ*, or want of *Sleep*, and depends on a hot *Flatulency*, or *Elasticity* of *Spirits*.

Thirdly,

Thirdly, The *Animal Spirits* are sometimes irritated, and violently agitated in particular Parts by some ungrateful Object: and this is called *Pain*:

Whose Species are,

1. *Cephalalgia*, or *Pain* of the *Head*.
2. *Cardialgia*, or *Pain* at the *Stomach*.
3. *Colica*, or *Pain* in the *Stomach* or *Guts*.
4. *Odontalgia*, or *Pain* in the *Teeth*.
5. *Otalgia*, or *Pain* in the *Ear*.
6. *Stranguria*, or *Pain* in the making of *Urin*, from sharp *Humours*.
7. *Calculus*, or *Pain* in the *Urin Passages*, from the *Stone*.
8. *Podagra*, or *Pain* in the *Joynts*.
9. *Arthritis Scorbutica*.
10. All the *Inflammations* and *Ulcers* following them cause great *Pain*:

Whose Species are,

1. *Aphthæ*, or *Inflammations* of the *Mouth*.
2. *Angina*, or *Inflammations* of the *Throat*.
3. *Inflammations* of the *Uvula*, and *Tonfils*, and *Gums*.
4. *Parotis*, or *Inflammations* of the *Glands* about the *Ears*.
5. The *Inflammation* of the *Stomach* or *Intestines*.
6. The *Inflammation* of the *Anus*, and *Hæmorrhoids*.

7. The *Inflammation* of the *Liver* or *Spleen*.
8. *Nephritis*, or the *Inflammation* of the *Kidnies*.
9. *Phrenitis*, or the *Inflammation* of the *Membranes* of the *Brain*.
10. *Ophthalmia*, or the *Inflammation* of the *Eyes*.
11. *Peripneumonia*, the *Inflammation* of the *Lungs*.
12. *Pleuritis*, the *Inflammation* of the *Pleura* and *Muscles* of the *Breast*.
13. *Inflammations* of the *Breasts*.
14. *Rheumatismus*, or the *Inflammations* of the *Muscles* of the *Limbs* in general, or else of some particular *Muscles*, as those of the *Hip*, in the *Ischias*; or the *Back*, in *Lumbago*.
15. *Inflammation* of the *Stones*.

By the continuance of the *Inflammations*, *Imposthumes* and *Ulcers* are bred in all the *Parts* of the *Body*, the chief of which, are,

1. *Vomica*, or an *Abcess* in the *Lungs* contained in a *Bladder*.
2. *Empyema*, or a collection of *Matter* in the *Cavity* of the *Breast*.
3. *Phthisis*, or an *Ulcer* in the *Lungs*.
4. *Dysenteria*, or an *Ulcer* in the *Intestines*.
5. *Tenesmus*, or an *Ulcer* in the *Intestinum rectum*.

6. *Ulcers*

6. *Ulcers of the Eyes.*
7. *Ulcers of the Kidneys and Bladder.*
8. *Ulcers of the Anus.*
9. *Ulcers of the Viscera, as Liver, Spleen.*
10. *Ulcers of the Glands in the Scrophula or Kings-Evil.*
11. *Ulcers of the Mouth and Throat, Nose or Ears, Gums and Stomach.*
12. *Gonorrhæa, or Ulcers of the Prostatæ.*

All these *Ulcers* may conveniently be treated of immediately after the *Inflammations* of their several parts, to which each *Ulcer* must be referred.

Because the *Fever* attending *Inflammations* for the most part, though at first it occasions them, yet afterwards it depends on the *Tumour* and *Pain*; I chose to referr them to the Class of *Pains*, rather than to that of *Fevers*; and also, because many *Inflammations* depend on other causes than *Fevers*; but all are attended with great *Pain*.

Fourthly, The *Animal Spirits* are some time in an explosive Motion, by which they cause *Convulsions*, which depend much on the hottest Flatulency of *Humours*; as,

1. *Epilepsia* is a *Convulsion* of all the outward Parts, with a falling down suddenly.

2. *Passio Hysterica* is a Convulsion of the inward Parts, as the *Lungs*, *Diaphragma*, *Mesentery*, *Womb*, and *Muscles* of the *Belly*.

3. *Chorea Sti Viti*, is a Species of Convulsion observed in the *Lameness* of Girls, before their *Puberty*, with shaking of their *Leg* and *Hand*.

4. The Convulsions of Children from Pain, as in the breeding of *Teeth*, *Gripes*, or *Worms*.

5. The Convulsion from *Serous Matter* in the *Heads* of Children, or the *Metastesis* of a *Malignant Fever* thither.

6. The *Palpitation* of the *Heart* is a Convulsion of it.

7. *Singultus* is a Convulsion of the *Stomach* and *Diaphragma*.

8. *Coughing* is a Convulsive Motion of the *Breast*.

9. *Sneezing* is a slight Convulsion from *Humours* irritating the *Nose*.

10. *Priapismus* is a Convulsion of the *Penis*, which causes *Painful Erection* of it.

Fifthly, The *Animal Spirits* have sometimes a violent, tumultuous, or restless Motion in the *Brain*, by which the *Judgment* is depraved, and the *Idæa's* confused.

1. *Mania* is a furious Motion of the *Animal Spirits*, with the *Passion* of *Anger* and *Boldness*; these *Spirits* are from a *Rancid*, *Cholerick Blood*.

2. *Melan-*

2. *Melancholia* is a restless Motion of the *Spirits*, joyned with the Passion of Fear and Sadness; from a *Vitriolic* State of *Blood*.

3. *Furor uterinus* is a *Delirium* joyned with an immoderate Appetite of *Venery*, in which case the *Spirits*, as well as the other *Humours*, are tingured with the *Seminal Fætid Lympha*.

Sixthly, The *Animal Spirits* acquire some crude or mixt Flatuosity; or become windy, as in bottled *Liquors*, or the *Spirits* of those not fully fermented. These *Distempers* happen in a flatulent *Cacochymia*.

1. *Vertigo*, which is a vertiginous Motion of *Spirits*.

2. *Tympanites* is a permanent Inflation of the *Membranes* of the *Abdomen*, by flatulent *Spirits*.

3. *Asthma* is the Inflation of the *Membranes* of the *Lungs*, and of the *Membranes* covering the *Muscles* of the *Thorax*, but does not continue long.

4. *Incubus* is an Inflation of the *Membranes* of the *Stomach*, which hinders the Motion of the *Diaphragma*, and *Lungs*, and *Pulse*, and *Motion*, but with a sense of a weight oppressing the *Breast*.

5. A windy Inflation of the *Uterus*, after Child-Bed, in many *Hysterical* Women, and those

those especially who have oft Miscarried, are sensible of Wind passing from the *Womb*.

6. The flatulent *Tumours* of particular Parts.

Seventhly, The *Animal Spirits* are unfit for the Motions of Sense or Reasoning, or Memory, by their depauperated or waterish State, or some Indisposition in the Canals of the *Nervous Fibers* in all Fools, which we call *Morosis*, and the *low, phlegmatic, or waterish, or tartareous Caco-chymia's*. Each *Caco-chymia* produces *Animal Spirits* of a peculiar Temper suitable to it; so that by observing the *Caco-chymia*, we may know the particular ill State of the *Spirits*; and this cannot be cured without altering the other. The *Spirits* are a *Secreted Humour*, and often circulating through the *Blood*; they must partake of its several *Caco-chymia's*; and this Observation is most certain; *qualis chylus, talis est sanguis; qualis sanguis, talis est succus nervosus, cæteri; omnes humores secretiti*

C H A P. III.

Of the Preparation of Animal Humours by Fermentation.

From the *Crude* and *Watry* Juices of *Vegetables*, we prepare all our *Wines* by *Fermentation*, which dissolves the *Slimy Mucilage* of the *Grapes*, or other *Fruit*, into a more *fluid Consistence*; it separates the *Acid Particles* from the more *Earthy*, and *volatilizes* the *oleous Particles*, and unites them with the *Acid*; for we observe that all *fermented liquors* (whether from *Fruits* or *Corn*,) are composed out of a sweet rarefied and well digested *Mucilage*, and of *Acid Oleous Particles*, (which are their *pungent Spirits*,) all which being dissolved in a *Watry Vehicle*, the *fermented liquors* obtain a clear, *lympid*, and equal *Consistence*.

The *Particles* which compose our *Chyle*, are very like those mentioned of *fermented liquors*, and by the following Discourse it will be manifest, that the *Chyle* has its preparation by being *fermented* as other *Liquors* be.

Chyle

Chyle has the same Principles as *Milk*, & *viscidit*y from the *Caseous Parts*, an *o*yliness from the *Butyraceous Parts*, and an *Acidity* from the *Tartareous*, which we taste in *Buttermilk*; besides, a *waterish Serosity*, in which the other Principles swim and are mixed.

It is scarce doubted by any of our *Modern Physicians*, that the *Chyle* is prepared by *Fermentation*, when they consider the nature of the *Saliva*, how much it ferments *Animal Humours* when any one is Bitten by a *Mad Dog* or other *Venomous Creature*; and the most familiar use of the *Runnet* is to ferment our *Milk*, and give a strong *factor* to *Cheese*. Besides the *Saliva*, there is observed in the *Stomach* of *Animals*, a *slimy lymph*a issuing from the *Glandules* of the *Cavities* there, which being *Slimy*, *Fætid*, *sub-Acid*, or *salso-Acid*, it resembles the natural temper of the *Runnet*, and likewise its use, by being an *Animal Ferment*.

In *Birds* there are no Reliques of the former *Digestion* in their *Craws*, or *Gizzards*, and therefore the *lymph*a of the *Primæ Viæ*, suffices for a *Ferment* without the *Acid* Reliques, and the same suffices in the first digestion of the *Succus Nutritius* in an *Embryo*.

That I may the better explain the *Fermentative Nature* of the *Saliva*, and the other *lymph*a's of the *Stomach*, I will compare it with *Barm*, which,

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1. Is separated from a fermenting Liquor, and contains the Spirits of it in Bubbles ; so the *Saliva* is separated from the *Chyle* new mixt with the *Serum* of the *Blood*, and from thence it has its preternatural *Acid*, *Bitter*, or *Salt Taste*.

2. *Barm* has *viscid Parts*, it smells strong, and gives a heat on the Tongue. I have Distilled a *vinous Spirit* from it, so that it contains Spirits fit to ferment. The *Saliva* is *viscid*, and gives a Milky crust, when dried, on the Tongue ; it is naturally frothy, and it much weakens the digestion to Spit much ; it has no considerable Smell or Taste, because it ought to take *sapid Particles* from other Bodies in most *Animals*, but Birds who swallow whole Grains can have no Taste. Wheat Meal, with the white of an Egg, ferments in the want of *Barm*, and the white of an Egg is a *glandulous Milky lymph*.

3. The Spirits included in *Barm*, agitate the Spirits of new Drink, so the *Saliva* contains an oily *Acid* in it, which gives it a whiteness like *Chyle*, and these *active Particles* give a *fermentative Motion* to those included in the new Meats.

This *fætor* in the *lymph* of the Stomach, is from the Spirits of the *Animal*, (for it resembles the Smell of each *Animal*, and no *fætor* is produced without a high fermentation.)

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This therefore easily communicates its Internal agitation, (when the Food comes chewed and broken into the Stomach) to the oily *Acid Particles* of the *Alimentary Mass*, whose *viscid Particles* are rarefied by the mentioned agitation, and the oily *Acid* dissolved in the liquid part, and hence is the *Colour* and *Consistence* given to *Chyle*.

That the Meat in the Stomach is dissolved by *fermentation*, appears by the following observations.

The Contents in the Stomach, after their dissolution, strike the Nose with a pungent *Acidity*, from the volatilization of the *Tartar* of the *Chyle*.

There is also in the Contents in the Stomach a *flatulency*, and a great *fætor*, which are the natural effects of *fermentations* in *Vegetables*, and of *putrefaction* in *Animals*, which is the highest degree of *fermentation*.

We know not yet any *Menstruum* which can so suddenly dissolve Flesh Meats, but we find that they soon Putrefie, and those that be half Putrefied, are easiest digested.

As to our Drink, that is wholly prepared by Fermentation; and we find, by our Experience, that all fermented Meats and Drinks are easiest digested; and those unfermented, by *Barm* or *Leaven*, are very hardly digested.

But

But the *fermentation* of our *Chyle* will appear more evidently, by observing, that whatsoever Medicine helps the *fermentation* of Wines, those of the same nature promote also the preparation of our *Chyle*, which is by raising its fermentation.

1. *Calx viva* and *Gypsum* put into fermenting Wines, help their Fermentation, by precipitating their *Crude Tartar* which fixes the oily Spirits, and coagulates them. After the same manner Physicians, by their fixed and *volatile Salt*, and *testaceous Medicines*, exalt the *fermentation* of the *Blood*, and free the oils from the austere *Tartar*, with which the Medicines mentioned are coagulated, and pass off by *Stool* or *Urine*, and the same Medicines help the digestion in the Stomach.

2. *Aromatics*, as *Cubeb's*, *Cinnamon*, *Nutmegs*, *Orris*, or *Cloves*, are usually put into crude poor Wines, to give them more oily Spirits, and to excite their languid Motion; and for the same end crude Wines are included in resinous Vessels; and we add *Resin*, or shavings of *Fir* to vapid Wines. These are easily turned into a flame by Fire, and these therefore more readily produce heat and ebullition in fermenting Wines, which is only a less degree of Fire, from a less intense Motion of its oily *Acid Particles*.

Physicians

Physicians for the same end use all sorts of *Aromatics*, and *Resinous Plants*; that by their *volatile Oyls*, they might agitate and rarefie the *Oily Particles*, both in the *Chyle* and *Blood*, and by that means raise their *fermentations*.

3. *Bitter Acrid Plants* help the *fermentation* and *depuration* of all *Mault liquors*, and therefore *Mustard* and *Ginger* are sometimes added to *Beer* or *Cyder*, to promote their *fermentation*; and *Hops* or *Worm-wood* have the same effect.

Our *Blood* and *Humours* are much heated by *Bitter* and *Acrid Medicines*; they excite our *Appetite*, and hasten the digestion of our *Food*, as every ones experience does evince.

4. The *Greeks* use *Sulphur* in the preparation of *Crude Wines*, and in many Places, the *Vessels* are sulphurated with *Brimstone*; by experience we are taught, that *Metallic Sulphurs* exagitate the *Oyls* of *Animals*, and thereby promote their *Chylification* and *Sanguification*.

5. *Vinous Liquors* abound with an *Oleous Acid Spirit*, whereby they much promote the *fermentation* of other *Liquors*, and for this reason *vapid Wines* are put upon the *Lees* of more noble *Wines* to give them a *Spirit*, and for the same reason we *Stum* our *crude Wines* to new ferment them, and to renew their *Spirits*.

In the crudities of the *Chyle*, all *Animal ferments* are useful, as old *Cheese*, in which the *Runnet* lies: *Vinous* Liquors which have undergone a *fermentation*, are apt to produce the same in other Liquors; so Spirituous Liquors cause the *Chyle* and *Blood* to *boil* and *ferment*, and sometimes produce a *Fever*.

We use the inward skins of *Gizzards* of *Hens* and *Pidgeons*, in which the *Animal ferment* lies, to help our digestions; we invent new *Sauces* and *Pickles*, which resemble the *Animal ferment* in *Taste* and *Virtue*, as the *Salso-Acid* Gravies of *Meat*; the Salt *Pickles* of *Fish*, *Anchoves*, *Oysters*; *Pickled* Fruits, as *Mangoes*, *Olives*, *Capers*, *Chatchops*, and an *Indian liquor*; all which promote the *fermentation* of our *Meats*, and so produce a *Surfeit*, sometimes; *French Wines* and *Rhenish* heat the *Blood* and ferment the *Chyle*.

The same Medicines not only ferment both the *Chyle* and *Wine*, but also the *fermentation* is restrained and stopped by the same alike.

The heat of the *Fire* promotes *fermentation*, and much *Cold* checks it; so we apply heating Medicines or *Skins* outwardly to a weak *Stomach*, and we find all *Cooling* things inwardly and outwardly to cause pain and gripes in weak digestions.

Acids, *Fats*, austere *Juices*, and those that are very *Mucilaginous* and *Watry*, are difficult-
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ly fermented by Art, but hinder both the fermentation of Wines and the Chylaceous Mass, for these Tastes hinder the agitation of the Oleous Acid Particles, because they consist of Particles difficultly moved.

This fermentation by which the Chyle and Blood are prepared, may be depraved both ways, for it may be depressed under its natural State, or exalted above that degree which is suitable to the natural temper of any Animal, of both which Errors, and the Cachochymia's depending on them, I shall next discourse.

But I shall first farther observe, that though the Chyle is prepared by fermentation, yet all other humours arising from it, as the Serum and Blood, and all the secretitious humours from each of them; are prepared only by circulation and a longer digestion, by mixture and secretion; for by these they may acquire their peculiar Crases and Tastes; by the ferment of the Stomach, the various kinds of Meats are changed into the natural temper of each Animal, and the lymph of the Stomach has most eminently the Specific Taste of each Animal, as will appear to any person who will taste it.

If the Chyle be rightly fermented, all the humours arising from it are duly prepared; But if the fermentation of that is vitiated, all the
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the other humours produced from vitiated *Chyle*, retain a Tincture of its defect in their preparation.

Whatsoever *ferments* the Meat, helps and raises the digestion of all other humours, and therefore we need not enquire for any *ferment* or other *digestives*, for the particular humours of *Animals*, besides those which ferment the *Chylaceous Mass*.

All the conditions requisite to a *fermentation*, are to be found only in the *Stomach*, and its *fermentation* very clearly explained, by comparing the digestion of the *Stomach* with Artificial *fermentations* of *Vegetables*; for we first pound the Plant which is to be *fermented*, and dilute it with Water in which some *ferment* is dissolved, and afterwards it is to be placed in some warm place till it acquires a *Vinous acid smell*, and then it is fit for the yielding a brisk inflammable Spirit.

After the same manner our Meat is chewed and swallowed into the *Stomach*, and there mixed with the *Saliva*, and the *viscid slime* of the *Stomach*, which are its *ferments*.

The *Stomach* has a gentle digesting heat from the neighbouring *viscera*, which are *Sanguineous*, whose warmth digests the Meat into a *pulp*, which smells *sub-acid* and *fætid*, and that *stimulating*, the *Stomach* excites its *expulsion*; for if it should stay longer there,

it would become *putrid*; but no more is requisite, but the loosening the natural Texture of our *Aliments*, and making the oily *acid* parts and the *viscid* free to dissolve into an *Alimentary Tincture*, which is only the juyces of *Vegetables* and *Animals* dissolved out of their *fibrous Vessels*, and then they will as easily ferment as they did in the *Plant* or *Animal* in which they were first produced. The capacity of the *Stomach* makes it fit for a fermenting *Vessel*, and its *Membranous* substance makes it fit for the *distention* necessary upon a *fermentation*, and its two *Orifices* are prepared for the letting forth of the rarefied *Spirits* in *ructus* or *windiness*, the common effects of all *fermented liquors*.

C H A P. IV.

*Of the Depressed Fermentation
of Humours in General.*

WHen a *slimy, acerb, or flatulent Chyle* is produced, and when from thence a watery *serous Blood* is digested, we must acknowledge that both the *Chyle* and *Blood* have had too weak a *fermentation*, and by that are ill prepared; of which defect we usually observe these Causes.

First, When the Meats we use have some vitious Quality, which gives the same Tincture to the *Chyle*, and that is not corrected by the Digestion, as in Meats hardly fermented, as those which have a tough consistence: All Meats of a *Watry, Mucilaginous, Acerb, Viscous, Oleous, Acid, Austere*, and *Fat Taste*, and such as the Meat is in any eminent quality, such is the *Chyle*; and the state of *Humours* thence arising, for we observe a *Mucilage* in crude Corn; and those *Green-sickness* Girls, who eat great quantities of *Oat-Meal*, abound with an extraordinary quantity of crude

Mucilaginous Chyle which oppresses their *Stomachs*, and stuffs their *Lungs*, and gives a great *Pleneness* to the whole habit of the body.

Not only the quality of our *Diet* depresses the *fermentation* in the *Stomach*, but the quantity may be more than the *ferment* can concoct or suffice to dissolve and agitate; so by frequent *Debauches*, the *Digestion* is weakened, and after too great a fulness the *Stomach* is oppressed, and flatuosities produced in it.

Secondly, The *Preternatural* state of the *ferment* which ought to be separated from the *Chyle*, well circulated and exalted in the *Blood*, by the *Glands* of the *primæ viæ*, and to have the *fætid Animal Spirits* mixed with a *Chylous Mucilage*, and *Tartareous acid*, whilst it retains, its healthful *Constitution*, but it is altered from this state in a depressed *fermentation*.

1. When the *ferment* of the *Stomach* is *vapid*, or less impregnate with the *fætid Animal Spirits*, when its consistence is too *viscid* or *phlegmatick*, or its *acidity* too *acerb* or *crude* and less *volatile*.

2. The *Bile* if it be *insipid*, *watery*, *viscous*, depresses the *fermentation* of the *Chylaceous Mass*; for by its *bitterness* and *acrimony*, it ought to correct the *acidities* of it, which are produced by the *fermentation* in the *Stomach*, and by the same *Tastes*, like *bitter Plants*

Plants in other *Liquors* help their *depuration*, and *fermentation*, and with the *Acid* unite into an *Animal volatile Salt*.

3. These ill qualities of the *Ferment* and the *Bile* depend on a *crude, watery, austere, mucilaginous Blood*, derived from *Parents*, or other-ways produced ; for the *ferment* will retain the *crude* state and temper of the *Humours*, from which it is derived.

4. A remiss *Circulation* of the *Blood* ill digests, and worse separates the *ferment* from it.

5. *Waterish Humours*, which ought to have been separated by other *Glands*, being detained in the *Blood*, they deprave and enervate the *ferment*, which are also transmitted to the *Stomach* with it ; so by the suppression of the *Menses*, or other *Evacuations*, and especially by *Fevers*, and a *Catarrh*, the *Stomachical ferment* is vitiated.

6. Great *Evacuations* which carry off the *nutritious Humours*, weaken the *ferment*, as *Hæmorrhagies*, which depauperate the *Blood* by *Vomitings* and *Loosness*, which carry off the *fermenting Mass*, *Convulsive distempers*, and all *Nervous effects*, which spend the *Animal Spirits*, or divert them from the *Stomach*.

7. Some of the six *Non-Naturals* alter the *ferment*, as our *Diet*, which is mentioned

above, and Idleness, or want of Motion, hinders the secretion of the *ferment*, and distribution of the *Chyle*, from which it is prepared.

Sleep causes the same Stagnation of *Humours*, if immoderate.

Fear stops the Circulation of *Blood*, and Secretion of the *Humours*.

Too much heat in the Summer time causes the *Blood* and *Humours* to evaporate their *volatile* parts, which promote the Fermentation.

In a cold and moist Region the *Ferment* is too *slimy* and *waterish*.

Thirdly, Digestion is vitiated by the Diseases of the *Stomach*; when it wants its Rugosity, the Meat descends undigested too soon, or is vomited up; when it is stopt by any *Tumour*, *Contraction* or *Compression* about the *Pylorus*, the Meat turns sower and flatulent.

The Cure of a *weak Digestion* consists,

I. In avoiding all these evident Causes which produce it, and by using the contrary; as,

1. Avoiding *Waters*, *fat*, *acerb*, *acid*, *austere* or *viscous Vegetables*, and all *Drinks* half *boiled*, and half *fermented*, *turbid* or *acid*.

2. The

2. The most convenient Diet, is that of *Flesh-Meats*, in which there is a *fætid Oylinefs*, and a natural *Saltnefs*, and no *Crudities*. The most convenient *Liquor*, is *small Ale* for constant Drink, or else *small Wines*.

The Physical Tastes in our Diet which help a weak Digestion, are, the *aromatic*, the *salt*, the *bitter*, the *acrid*, or *vinous Taste*, these help the Fermentation in the *Stomach*; and are to be commonly mixed with our Meats.

The *Flesh-Meats* of an easie Digestion, are the *Flesh* of all young Animals, as *Pig*, *Lamb*, *Rabbit*, *Chicken*, *Potched Eggs*, and *fresh Fish*; but the Diet which has the Physical Tastes above-mentioned, is more easily digested by weak *Stomachs*. *Bread* well fermented, and *small Ale*, are the most easily digested by a weak *English Stomach*.

Salt Meats excite the *Appetite*, keep the *Body* open, cut the *Phlegm*, strengthen the *Stomach*, and help *Digestion*.

3. Motion helps the Depuration of *Wines*, if carryed in a Ship, or shaken; so exercise helps the distribution of the *Chyle*, the circulation of the *Blood*, and secretion of *Humours*, and the digestion in the *Stomach*, as well as sanguification of

of the *Chyle*, for an external Motion of *fermenting Liquors* promotes the internal Agitation of Parts, in which the nature of Fermentation consists.

4. Instead of Fear and Sadness, Joy and Anger are to be indulged; for these make a brisker Motion of *Humours*; but the former check the Expansion of our *Spirits*, and cool the *Body*.
5. All natural Evacuations of *Humours* must be restored; but too much *Vener*y cools the *Humours*.
6. A serene and clear thin Air helps Digestion, by giving a greater expansion to the *Spirits*.
7. Cares and Watching excite the *Animal Spirits* to a brisker Agitation; but long Sleep dulls them: Sleep of 7 or 8 hours is sufficient.

II. The Second Intention respects the correcting the Ferment, and the Faults of the *Humours* from whence it arises, and the Evacuating of the quantity of any preternatural *Humours*, by Vomiting and Purging, which is described in the Cure of the following *Cacochymia's*.

III. The Third Intention, is the Suppressing of all preternatural *Evacuations*, which will be described in the Cure of them.

IV.

IV. The supply of the Defect of the Ferment, by Medicines like it in Taste and Vertue.

V. The Diseases of the *Stomach* are to be cured by the prescribed Method for those particular Distempers, ~~for which~~ are of want of *Appetite, Inflammations, or Pains of the Stomach, the stopping Evacuations by Vomit or Stool, &c.*

The following Tastes are the general Digestives in all the fold *Cacochymia's*, which depend on a low Fermentation. These promote the Fermentation of the *chylaceous Mass*, the Circulation of *Blood*, and Secretion of *Humours*. These deterge the *viscous Phlegm* from the *Membranes* of the *Stomach*, and corroborate its *Fibers*; and upon these accounts these Tastes are the general *Stomachics*.

I. The *Cresse Acrids*, as *Horse-Radish, Scurvy-Grass* infused in *Wine* and *Mustard-Seed*.

II. The *Corrosive Acrids*, as *Aaren-Roots* in *Powder* or *Wine*, and *Pulvis ari Compositus*; these Two Tastes quicken the *Appetite*, and *Garlic* preserved does the same.

III. The *Bitter Acrids* of a *Wormwood* Taste, as *Conserve of Wormwood*, and *Wormwood* in *Rhenish* or *Sack*, or *Wormwood-Cakes* made with the *Oyl* and *Sugar*.

IV. The *bitter nauseous Plants*, as *Centaury, Buck-Bean, Gentian*, of which *Thea* may be made

made or *Wines* by Infusion, and *Aromatics* added, or *Sal volatile* taken with them.

V. The *Aromatic Acrids*.

1. Of the sweet Class very burning or biting, as *Ginger*, *Galanga*, *Calamus Aromaticus*, *Orris*, *Zedoary*, *Cardamum*.
2. Of the sweet *Fenil* Class, as Seeds of *Fenil*, *Anise*, *Caroway*, *Cummin*, *Dill*, *Angelica*, and *Imperatoria* Roots.
3. Of the *Laurel* Class, as *Orange* and *Limon* Peals, *Winter-Bark*, *Bay-Berries*, *Cloves*, *Cinnamon*, *Lign' aloes*, *Nutmegs*, *Jamaica Pepper*, *Myrtil-leaves*; and these are properly infused in *Wine*, or made into *Powders*, or *Lozenges*, as of the *distilled Oyls*, of *Oyl of Cinnamon* and *Cloves*.
4. Of the *Corrosive* Class, as *Pepper*, *Cubebs*, *Species Diatrion*, *Pipereon*, in *rotulis*.
5. Of the *Terebinthinate* Class, as *Juniper-Berries* Candied, as in *Rh~~us~~ Balsamum Peru*, *Mechæ*, *Mastich*.
6. Of the *Bitterish Styptics*, as *Rosemary*, *Mint*, *Marjoram*.

VI. The *Mineral Sulphurs* which exagitate the *Animal Oyls*, and so promote Fermentation, as *Chalybeates*, *Antimonial*, and common *Sulphur*.

VII. The

VII. The *testaceous stony Medicines*, and all *Salts*, volatile and fixed, the *Ashes of Vegetables*, and *Calces of Minerals*, *Cure Acidities*.

VIII. All these *Tastes* prescribed in the *Cure of the Defect of a Ferment*, supply its *Office*, and contain an *Animal Ferment* in them. As,

1. The *Mucous, sub-Acid, Fætid Diet*, made of *Animal Humours*; as *Cheese*, the inward *Skins of Gizzards*, which have the *Tincture of the Gall*, or $\frac{3}{4}$ of *Rennet of a Hare*, or *Calf*; all *Meat or Fish* somewhat putrefied, as *Anchoves*, *pickled Oysters*; and outwardly we apply *Leaven*, with the *Juyce of Mint*.
2. By *Artificial Sauces* we imitate the natural *fætid and sub-acid Slime* of the *Stomach*, as in *Catchups*, ^{Mango} ~~Plums~~, *Mushrooms*, and some *Indian Liquors* or *Sauces of Garlic, assa fætida*, — *Salt*, and *Aromatics, Mustard-Seed*, with *Vinegar* in common *Mustard*.
3. By the *salso-Acid Medicines*, as *Tartar. Vitriolat. Sal Armoniac. Arcan. Duplicatum, Terra Ful. Tartari, Lixivium* of *Lime* and *Oyster-Shells*, we help *Fermentation*.
4. By the *vinous, sweet, and sub-acid Spirits* or *Juyces*; *Spiritus nitri dulcis*, sweet
Spirit

rit of Salt, Spirit of Bread, Elixir Vitrioli, Spirit of Mastich, which is Acid, Spirit of Verdegrease, Juyces of Citrons, Limons, Oranges, Berberries, Currans, Spirit of Vinegar, all sharp Rhenish Wines, old Hock, conserve of Hips, Water of Vine Leaves, or other acid Juyces, and all physical, aromatic Vinegars.

Acids before Meat excite an Appetite, Salso-Acids with Meats, and Aromatics are good after Meat to help Digestion.

Fourthly, External Applications are described below, which encrease the heat of the Stomach, and strengthen the Fibers.

C H A P. V.

Of the Mucilaginous State of Animal Humours, and especially the Chyle, and Chylous Lympha's, which is usually called the Pituitous Cacochymia.

TH E Food of *Animals* contains in it much of a *sweetish Mucilage*, as is in all *Corn, Grass, Milk*, and the *Legumens*; neither does *Flesh-Meat* want their *Sliminess*. The *White* of an *Egg* is *ropy, slippery*, and is a *nutritious Lympha* separated from the *Chyle* by the *Glands* of the *Ovarium*. The *Decoctions* of *Fish* have a great *Mucilage*; and the *Gellies* of *Broth* sufficiently prove the *viscid Sliminess* in the *Flesh-Meats* we eat.

From our Food *Animals* necessarily take the matter of their *Mucilaginous Humours*, as will appear by these Causes of *Pblegm*.

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I. All *Drinks* occasion a great quantity of *slimy Phlegm*, which is only the *Mucilage* of *Barley* extracted from the solid Parts of the *Grains*. All *Mault-Drinks* may be boiled into the Consistencē of a *slimy Syrup*, or that of a *Plaster*.

All *sweet Fruits* have their *Mucilage*, as *Grapes*, *Gooseberries*, &c. and therefore these yield much *phlegmatic Matter* in *Digestion*; and all thick *Wines* made of them are accounted *Phlegmatic*.

All the *Legumens*, as *Peas* and *Beans*; have an evident *Sliminess*; and so have all *Cakes*, and crusty baked *Pyes*, or such like; and all *Meats* prepared of *Flower*.

All the *Olera*, as *Cabbage*, *Turnips*, *Lettuce*, *Spinage*, *Cucumbers*, *Melons*, &c. have an evident *Sliminess*, which they always produce in *Animals*, who eat them.

This *Mucilage* in *Plants* is their *crude Juyce*, and is of an *Oily Nature*, as appears evidently in *Linseed*; this is of a cooling quality, as *Phlegm* is accounted: from their *crude Slime* many *Plants* prepare their *sweet, bitter, acrid* or *aromatic Tastes*; and *Phlegm* is a *nutritious Juyce*, which may be farther digested into *Blood*.

The *Nervous Parts* of *Animals* yield the greatest *Slime*, as the *Calves Feet* and *Head*; the *Guts* are *Membranes* of *Animals*, the
shavings

shavings of *Horns*, and the decoctions of *Bones*. The *Liver*, *Spleen*, and *Brains*, have much *Slime*.

Fish and *Water-Fowl*, who feed of turbid and muddy slimy Water, are accounted to be the Causes of *Phlegm*, especially *Eels*.

All *Flesh* full of Nourishment, as *Beef*, *Pork*, *Gellies*, *Gravies*, and *Eggs*, increase the matter of *Phlegm*.

Young Creatures, as *Pig*, *Lamb*, &c. yield a very great *Slime*, if eaten too young.

Goats-Flesh eats very *slimy*.

All *fat Meats* are *slimy*, and of hard Digestion; and *fat Bodies* are usually *phlegmatic*. *Oyl* has a *Slimeness*, and so has *Fat* always joyned with it.

Milk breeds much *Phlegm* from the *Caeous* parts in it; and *Butter* is accounted *phlegmatic* from its oily fat parts.

Too great a quantity of *Meat*, and often Drinking great quantities, breed a *Sliminess* in the *Chyle*, by hindring the Fermentation of the *Meat*, and its perfect Dissolution.

2. *Sleep* and *Idleness* hinder the circulation of *Humours*, and produce a stagnation of them, by which, their *viscid*, *oily* or *fibrous* parts cohere and unite into a *Slime*.

3. A *Mucilage* is increased in the *Humours* by a fenny, wet Countrey, or moist Air, which clogs the *Spirits* fermenting; and a cold Air

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coagulates

coagulates the *Humours*; so the *lymphatic Liquor*, exposed to the Air, immediately grows *thick* or *gellies*: and all our *strong Broths* grow *thick* and *viscid* by cooling.

4. *Cares* and *Sadness* stop the Motion of *Humours*, and thicken them; and hence it is that melancholy Persons are *phlegmatic*, and spit much *viscid Phlegm*.

5. The Suppression of Evacuations, as the *Menses* in Girls, and stoppage of a *Cough*, or *Spitting*, encreases *Phlegm* in the *Stomach*.

6. *Hæmorrhages*, long *Fevers*, *Fluxes* of the *Belly*, or other *Chronical Diseases*, produce much *Slime*.

8. Those who have been born of *phlegmatic* Parents, or live in a moist, cold *Country*, near standing *Waters*, or the *Sea-side*; those who are of a great *Age*, for want of a perfect *Digestion*; and those who are very *Young*, as *Children*, through their much and disorderly eating; *Women*, by reason of the lesser degree of *Fermentation* in that *Sex*, abound most with *Phlegm*. The *Cold* and the *Moisture* of the *Air* stopping the *Pores* in the *Winter-time*, makes that *Season* to be accounted most *phlegmatic*.

9. The *Mucilaginous Temper* of the *Blood*, *Chyle*, and *Ferment* of the *Stomach*, is natural to some *Constitutions*, who dissolve their *Meat* only into a *Mucilaginous Juice*, which
is

is the greatest Crudity of our Digestion; and therefore, from this arises all our *Phlegm*; for that was accounted, by the Ancient Physicians, the coldest *Humour*; which being a nutritious *Juyce*, it, by only fasting, was turned into *Blood*.

This crude *Chyle* swims in the *Blood*, and appears as *Milk* in the *Blood*, let out of some Persons who are greatly *Cachectic*; and by putting *Spirit of Harts-Horn* to such milky *Blood*, I have turn'd it reddish, or of a rosy Colour. Such was the *Blood* of a Gentleman who had drank hard, and bled much; this milky *Blood* in him was never turn'd into *Serum*; but in others of a less Crudity, the milky *Chyle* is imperfectly turned into *Serum*, but that is very much in quantity, and watery or insipid, rather than very salt.

The Sanguification is hindred for want of an acrid *Bile*, and the Saltness thence proceeding.

The Circulation is hindred by the viscosity of the *Slime*, and the Secretion of most of the glandulous *Humours*. The *Chyle* is never digested further than to a nutritious Sweetness; and from hence the habit of the *Body* is very fleshy and fat; but the *Pulse* slow, soft, and weak; the *Spirits* are dull and torpid; the *Bile* ropy and sweet, rather than bitter, or acrid; the *Juyce* of the *Spleen* very mucilaginous, for

want of Digestion, and the *Blood* has more of a *gelatinous* Consistence, than *fibrous*; and *Tumours* happen in the *Viscera* or *Glands*. In the *Brain*, *sleepy Distempers*, and *Dulness* of the *Senses*, or *Stolidity* from the *thick Sliminess* of the *nervous Juyce*; the *Urin* is *pale* and *waterish*, with *thick* and *white farinaceous Contents*, or without any, if there be *Obstructions*, and an *Appetite* is wanting.

The *Sweats* are *cold* and *viscid*, for *Phlegm* offends by both those qualities.

The *Succus Nutritius* abounds with *Slime*, and causes a *leucophlegmatia*, or *pale Tumour* of the habit of the *Body*.

The *Seminal Lympha's* are *cold* and *slimy* in *Sterilities*, and the *fluor albus*, or *Gonorrhœa simplex*, and so becomes unfit for the use of a *Ferment* in *Generation*.

The *Lympha lactea* is most abundant in the *phlegmatic*, for that is immediately produced from the *mucilaginous Chyle*, and separated by the *Glands* of the *Mouth*, whence the *slimy Phlegm* is hawked up; and this is plentifully emptied into the *Stomach*, where it causes a *loss of Appetite*, a *saburra pituitosa*, and *windiness*; and in the *Lungs* it causes *Coughs*, and *stoppage of Phlegm*, or *dyspnœa*, with *Lassitude* in the *Limbs*, a *slow Fever*, and *Paleness* of *Urin*, and of the *Countenance*, and *Palpitation* of the *Heart*, which are the signs of a
pituitous

pituitous Cachexia, evident in the *Green-Sickness*.

All outward *œdematous Tumours* arise from the *succus nutritius* of a *pituitous Temper*.

This *Chyle*, and the *Lympha lactea*, is the natural and alimentary *Pituita*, which the Ancients described as *insipid*: τὸ μὲν φλέγμα ἄπαιον καθάπερ ὕδωρ, is *Galen's* description of it; this is the *humid, cool, and sweetish* part, which is so agreeable to the Taste of the *Blood*; and they esteemed that *Blood pituitous* naturally, which abounded with an exceeding quantity of *sweetish Chyle*, which remained something undigested in the *Blood*, and was not wholly sanguified, but capable of it; this, of all the *Humours* to the touch, was, ψυχρότατον, or *coldest*, and they called it most *viscid*, or γλιχρότατον, when it is made so by the great Ebullition of *Blood* in *Inflammations*, for they thicken it into that *tough Skin* which covers the *Blood*, when cooled in the Dish.

But when this *chylaceous* part of the *Blood*, or the *Lympha's* thence arising, become preternatural, *Galen* describes the *Phlegm* thus, ἀλλὰ ἐκτρεπόμενον τῆς κατὰ φύσιν ποιότητος, ἢ ἀλικὸν μόνον ἀλλὰ καὶ ὀξύ, μεταλαμβάνει δὲ ποτὲ καὶ γλυκύσεως ποιότητος. The *lacteal Lympha's* have their *Acidities* from *Stagnation* in their *Glands*, or the *Tartar* abounding in *Chyle*. They have their *Saltiness* from the *Saltiness* of *Chyle*, and that of the *Serum* in *Catarrhs*.

In respect of the Consistence, the *Pituita* is watery and thin, or mucous, or slimy, or tenaceous, when the thin parts are evaporated, the *vitreous Pituita* is from the thickness of *Chyle*, or its *Stagnation* in the *Lungs*, and this is clear, like *Gum-tragacanth* dissolved. *Cold* may coagulate a *pellucid Lympha* into such a Consistence.

The *Tartareous* or *Gypsea Pituita* is from the earthy petrefying Parts, mixt with the *viscid Phlegm*, which is *Salso-acid*.

By the following signs, the *Ancients* guessed at the differences of the *Pituita*.

1. By the *pale, clear Urin*, and want of *Appetite*, they discerned the *insipid Phlegm*, or the lowest state of Digestion.

2. By a *pale, thin, milky Water*, and the *greatness* of the *Appetite*, they knew the *Acidity* of the *Phlegm*.

3. By a *lacteal, pale, thin Water*, with a *globous troubled Residence*, (and the *Cholic*) they guessed at the *vitreous Phlegm*; but this is frequently spit up, and evacuated by *Stool* or *Urin*, and so best observed.

4. By the *Citrine Urin* of a thicker Consistence, and high-coloured Sediment, the *Saltiness* of *Phlegm* is known.

The *Mucilaginous State* of *Humours* is to be Cured,

First,

First, By avoiding the Diet, and all the other evident Causes above-mentioned, which produce them, and using the Diet mentioned in the Cure of a weak Digestion or Fermentation.

The Diet in which there is least *Slime* is best, as *Wheat-Bread* well baked, and dry; *Wine* and *Water*; the *Flesh of Birds*; roasted Meats, as *Mutton*, *Rabbit*, *Larks*, *Sparrows*; and all salt Meats, or broiled Meats.

Fasting spends the *Phlegm*.

Secondly, The abundant *mucilaginous Phlegm* must be evacuated,

I. By *Vomiting*; and those of,

1. A bitter, acrid Taste, as *Vinum Scyliticum*.
2. Or vitriolic Taste, as *Sal Vitrioli*.
3. Or Sulphureous, as *infusio croci Metallorum*.
4. Mercurial Styptic, as *Merc. Vitæ*.

II. By *Purgers*.

1. Aloetics, which are acrid, bitter, and nauseous, as *Tinct. Sacra*, *Pil. Hieræ cum Agarico*, *Aloephanginæ*, *Stomach. Mastichin. de Ammoniac. Pil. Fætid. cum Gummi*, *Aloe Rosata*, *Elix. Proprietat.*
2. By acrid Purgers, as *Falap*, *Agaric*, *Scammony*, which contain an acrid, corrosive Resin, with a Sliminess.

D 4

3. By

3. By *Mercurials*, a plentiful Evacuation of *phlegmatic Humours* are procured, for the *acid Phlegm*, like *Spittle*, easily mixes with the *Mercury*, and *Mercury* injected into the conglomerate *Glands*, through the *Artery*, easily passes them.

III. By *Sudorifics*, which are *bitter* and *acrid*, as *Decoctions* of the *Woods*,* for the *Sweets* often appear *glutinous*, and smell *acid* or *sowre*.

IV. By *Diuretics*, the *Phlegm* is sometimes evacuated, or, at least, corrected by their *Acrimony*.

V. In Women, *Acrid Pessi* evacuate an *albuminous Pituita* from the *Vagina*.

VI. By the *Errhines* (which also excite a *Cough*) from the *Nose* and *Lungs*, a *Pituita* is evacuated.

VII. *Salivation* and *Masticatories* evacuate considerably, but *Salivation* many Pints of *Phlegm* in a Day, and very much by *Chewing* of *Tobacco*.

These are the natural Evacuations of the *pituitous Lympha*, which the *Physicians* procure by Art, and imitate the natural Evacuations of it, through the *secretory Glands*.

Thirdly, The Fermentation of the *Chyle* is to be reduced to its natural degree, by the *Tastes* above-mentioned, in the Cure of a *weak Digestion*; and, 1. More

1. More particularly all *acrid* and *bitter* Gums seem appropriate *Specifics* by their *mucilaginous* Consistence, by which they adhere to the *Slyme*; but by their *Bitterness* they deterge it, and by their *Acrimony* dissolve it; such is *Ammoniacum*, *Bdellium*, *Galbanum*, *assa fætida*, *Myrrha*, and all *terebinthinate* Gums and Balsams.

2. The *ropy* Consistence of *Wines* is cured by a *Lixivium* made of *Vine Branches*, by *calx viva*, or *Chalk*, or *Flints* burnt, which precipitate the *crude Tartar* with the *Slyme*; and for the *Phlegm*, we use the *Ashes* of *Vegetables*, and the *Calces* of *Minerals*.

3. *Ropy Wines* require *Styptic* Precipitators, as *Alumen ustum*; or *Salso-Acids*, as *Bay-Salt*: and the *bitter Styptics* may effect the same in the *Blood*, as *Ash-Bark*, and the *Cortex Peruvianus*. We add *Salt* to our *Dough* to attenuate its *Mucilage*; and *Sal Armoniac.* and *Tart. Vitriol.* dissolve the *Phlegm*.

4. We use *bitter Acids*, as *Elixir Proprietatis*, or *spirituous Acids*, to deterge the *Phlegm* of the *Stomach*, and the precipitating of it; and for this reason we sulphurate the *Vessels* of *ropy Wines*.

5. All the *bitter, nauseous Medicines* deterge the *Pituita*, as *Gentian*, *Aristolochia*, &c. and the *bitter slimy*, as *Carduus*, &c. help the clearing of *Beer*.

6. The

6. The *ropy Phlegm* is dissolved by *volatile* and *fixed Salts*, which dissolve all our *mucilaginous Gums*; and for this end *Sylvius* prescribes *Sal Volatile Oleosum* with our Diet, or immediately after it, which may be used then with *Milk, Water, and Sack*.

Stum is added to *ropy Wines*, and *Spirit of Wine*, that we may excite a new Fermentation in them: and by the same Experiment we are taught to use all things of a fermenting nature, both in our Diet and Medicines; for nothing dissolves the *Visciduity* of a *mucilaginous Liquor* like giving it a Fermentation; so the white of an *Egg* is dissolved into a *Colliquamentum* by the Incubation of a *Hen*, which is also made very liquid or fluid by becoming rotten, and putrefied by keeping; and then, if *Eggs* be boyled, they will never grow thick, like *new Eggs* boyled.

The White of an *Egg* is made thin, and more fluid, by beating of it; and from hence we learn, that much Exercise attenuates *Humours* that are slimy, and Fermentation does the same, which is an internal Agitation of Parts, whereby the *Visciduity* of *Vegetables* is dissolved in any Liquor, as in making of *Mault-Liquors* and *Wines*.

All new Liquors before they have undergone a full Fermentation are ropy and sticking, but by that their Consistence becomes more fluid.

By

By Experience we find that all hot fermentative Medicines, as *oily, resinous Vegetables, Steel and Salts*, cure the *pituitous Cacoehymia* in the *Green-Sickness*; and to such Persons we give *Stum* it self, as a great Ferment to their *cold Humours*.

Quicksilver Medicines easily mix with *Phlegm*, and so are fit to evacuate it; but by its *Acidness* it seems to depress the Fermentation of *Humours*, and so is not a fit Medicine, as an alterer in this *Cacoehymia*.

Fomentations of *Wines*, and *aromatic Astringents*, or *Brandy*, which flames, and *Aromatics* infused, hot *oily* and *resinous Plasters*, or *Cataplasms*, excite and cherish the inward Heat and Digestion; and outward Heat helps the Digestion and Putrefaction of all other Bodies, whether *Vegetables* or *Animals*.

The greatest quantity of the *slimy Pituita* is lodged in the *Stomach*, and without a *Vomit* it is almost impossible to remove the great quantity of *phlegmatic Humours*. I found a great quantity of *Phlegm* in the *Stomach* of a *Pig* fed with *Peas*, which could not proceed immediately from the *Meat* it self, because, though that was dissolved, it differed in Colour and Consistence from the *Phlegm*, and in Taste also; besides, in the *glandulous ring* above the *Gizzards* of *Birds*, there is a *viscid Phlegm*, though the *Corn* pass through it intire
and

and unbroken into the *Gizzard* ; this *Phlegm* then arises from the *Chyle*, and passes through the *Glandules* of the *Stomach*, to whose *Skins* it constantly adheres, and Fomentations outwardly may help the Secretion of it through its *Glands*, and the Dissolution of it from the *Stomach*.

That Fermentation is the most natural way of Curing the *phlegmatic Cacoehymia*, appears by our ordinary Preparation of Bread ; for the Ferment and Baking perfectly corrects the *slimy Mucilage* of *Corn* ; and we observe how *heavy* and *slimy*, and how *hard* to be digested, all *Bread* unfermented or unleavened proves.

If we view *Mucilages*, such as the *White* of an *Egg*, or *Cherry-Tree Gum*, dissolved in the magnifying Glasses, we cannot discern any *Globuli*, but an uniform Consistence. The small *Particles* of *Mucilages* exclude all Air, and cohere close, which makes them ropy and tenaceous ; but if we look upon *Milk*, which is little different from *Chyle*, and therefore is made out of the *mucilaginous Juices* of *Plants*, we may observe the *Particles* of *Milk* to be only a heap of *Globuli*. Fermentation makes all *mucilaginous Liquors* fluid, by agitating their *Particles*, and dividing into small Parts the *viscous Mass* ; so that the Air may incompass each *Particle*, and form them into
Globuli

Globuli, as it does great Drops of Water in the falling of Rain. Water is nothing else, as it appears in those Glasses, but a *Congeries* of *Globuli*; by which Observation, I may probably guess, that the nature of Fluidity consists in having the small *Particles* of *Liquors* divided into *Globuli* by the Air; and the nature of a *Mucilage*, in having no Air intermixt betwixt its *Particles*, nor globular Figure to yield upon any Pressure or Motion. We observe in fermented *Bread* how many airy Bubbles are intermixt in the whole Mass after Baking; and also in all fermenting *Liquors*, how full of Air the Fermentation makes it. *Barm* it self is almost all Froth, whose Efficacy lies in exciting the *Spirits* of the fermenting Liquor into an Agitation, to break its Viscidity, and admit the Air to frame the *Globuli* necessary to all Fluidity. We could not observe any Motion in the *Globuli*, to which the Fluidity of Liquor might be imputed, but seemed wholly owing to the globular Figure of the *Particles*, which appeared clearly in Water, the most fluid of all our Liquors.

Oyl and *Butter* appear in the Glass of the same uniform Figure as the *Mucilages* do, and this makes them easily to mix together.

I mixt divers Medicines with a *Mucilage* of *Quince-Seeds*, and the *White* of an *Egg*,
that

that I might thereby inform my self more in the nature of *Mucilages*, and their Coagulations.

Spirit of Vitriol soon coagulated the *Mucilage* of the *Seeds*.

Green Vitriol and *Alum* thickened the *Mucilage*, and the *White* of an *Egg* was curdled by *Alum*.

Common *Sal Armoniac*. and common *Salt*, rather thinned than thickened the *Mucilage*; but made no great change, nor *Cream* of *Tartar*.

Salt of Wormwood, and *Sp. Sal. Armoniac*. made the *Mucilage* more thin, and gave it a *Marmolade* Colour.

Brandy made no Alteration in the *Mucilage*, but curdled reddish on the top of the *White* of an *Egg*.

Aqua Fortis and *Saccharum Saturni*, turned the *White* of an *Egg* into a coagulated *Milk*, which shewed the Original of the *Animal Slimes* to be from *Chyle*.

The Heat of the Fire seemed to make the *Mucilage* more thin; and to dry it into a Skin, like the *Mucilage* of the *conglomerate Glands* of the *Joints*, which, as *Dr. Havers* informs us, is like the *White* of an *Egg*, of a saltish Taste; and this, he says, with the Heat of the Fire, turns into a *Liquor* more tenuous than it is naturally, and produces upon Evaporation

poration a thin film on the top, with some little *white Coagulum*, and what remains is not a thirteenth part. He made these further Experiments on it.

Vinegar coagulated it, but *testaceous Medicines* would not dissolve it.

Claret, which is *Styptic* and *Acid*, produced a Coagulation like a *Jelly*; but *White-Wine* and *Sack* less. *Alum*, *Vitriol*. *Sacc. Saturni* coagulated it; and *Vinegar* more, than *Oyl of Vitriol*.

Sal Armoniac. dissolved all the Coagulations by *Acids* or *Styptics*, and so does *Oleum Tart. per deliquium* made without *Niter*.

Aqua Fortis and *Spirit of Niter* coagulated it like *Milk*.

Styptic Plants, as decoction of *Galls*, *Red Roses*, the *Cortex*, coagulated it.

These Experiments being made on an *Animal Mucilage*, shew the Coagulation of it by *Acids*; for which Reason I transcribed them from the Ingenious Dr. *Havers's* Book.

C H A P. VI.

Of the Tartareous Acidity or Acerbity of Animal Humours; especially the Chyle and Lacteal Lympha's, which commonly appears in the sourness of our Stomachs.

ALL *Vegetables* have their Tartar or Sour part, altho they Taste nothing of it, but are very *Bitter*, yet their Juices being Boyled to an Extract, manifest their Tartar to the Taste, as in Extract of *Wormwood*.

All Liquors prepared from *Vegetables*, and Bread made of them, are apt to sour by keeping, and therefore manifest the *Tartar* which lay concealed in it before, under the sweet oily Taste.

Not only *Vegetables*, but the *Animal Chylous Juices* have a sour *Tartar* in them; for *Milk* which is a depurated *Chyle*, sours by keeping,

keeping, and *Butter-Milk* has an evident *Acidity* in it. The *Chyle* of *Animals* is often observed to be coagulated by its own *Innate Tartar* in the *Glands* of the *Mesentery*, or other *Viscera*, where *Cheesie* coagulations are often cut forth.

The *Milk* in the *Breasts*, is often coagulated by its own *Acidity* or *External Cold*, and by its *Stagnation* produces *Tumours*.

The *Lacteal Lympha* is often coagulated in the *Conglomerate Glands* of the *Mouth*, *Nose*, *Throat*, and in the *Bladders* of the *Lungs*, by its own *Tartar* or *Cold*; and the taste of the *Saliva* is often observed to be *Sour*.

The *Serous Salt Lympha* is coagulate in *Rheumatic* pains in the *Lymphatics*, and in the *Conglobate Glands* in *Scrophulous Tumours*.

The *Lympha* of the *Nerves* may be coagulated in the *Palsie* and *Cataracts*.

The *Blood* it self is coagulate and grumous from too *Acid Chyle*, which causes a low *Pulse* and *Fainting*.

The austere *Juice* of the *Spleen* produces obstructions in the *Hypochondria*, and coagulates the *Bile* like *Alum*.

The *Contents* of the *Guts* being austere, they produce *Cholics*, and the binding of the *Belly*, and a compression in the *Stomach* and *Breast*.

If we consider only the *Principles* which *Chymistry* extracts from *Animal Humours*, we shall find no sensible *Animal Acid* pure and evident in them; for they only shew us a *volatile Salt*, and *fætid Oyl*, and *phlegmatic Water*; but if we examine the *Stomachs* of *Animals*, and both *Smell* and *Taste* the *Contents*, there we shall observe a manifest *Acidity*; from whence I shall observe, that our bare *Senses*, if diligently imployed about natural subjects, inform us more truly than the *Chymical Experiments* by strong Fires, about the Nature of them.

A different *Quantity* and *Quality* of *Acids* appears in the *Stomachs* of *Animals*, according to the difference of their *Meats*.

In the *Stomachs* of *Rabbits* a manifest pungent *Acidity* may always be observed, if they feed on *Grass*.

In the *Stomach* of a *Lamb* an acid *Taste* and *Smell* may be observed very different from the former, like the *Sourness* of *Milk*.

In *Birds* who feed on *Grass*, the same *Acid Smell* appears as in *Rabbits*.

In the *Carnivorous Animals*, and in *granivorous Birds*, the *Acid* is less evident, and their *lymphatic Ferment* tastes *insipid* or *sub-acid*; but the *Contents* of *Carnivorous Stomachs* coagulate *Milk*; and I believed the *Digestion* of *Ram* and *Beef* was *sub-acid*, as I observed.

From

From hence it appears, that *Acidity* is produced by the Digestion in the *Stomach*, and is only a consequent of it, and not the cause. *Acidity* is more observable in Young Creatures, who feed on Liquids, than in the Elder; but these ought to have had a stronger *Acid Menstruum*, (if our Meat were to be dissolved by it) which, if it were as strong as *Aqua Fortis*, it could not dissolve *Corn*, which is very easily dissolved by Fermentation, for it is nothing but the sweet *slimy Juices* of *Plants* which yield the Nourishment to *Animals*, and that is easily dissolved out of the *Bladders* of *Plants* by any *Menstruum*, and as easily prepared by Fermentation; for its becoming a *nutritious Juice*, and the solid *Bladders* and *Fibers* of *Plants* mixt with a *Slime* and *Choler*, constitute the Excrements of *Granivorous Birds*.

This *Acid* is natural, and necessary to the Health of *Animals*.

1. To help *Digestion*, and excite *Appetite*. *Leaven* has a *spirituous Acidity* in it, and then it ferments best. Not every *Acid* helps the *Digestion*, but a *spirituous Acid* is chiefly required; and those *Acids* which are well tempered by a *Salt* or *Earth*, as common *Salt*, or the *Sal Armoniac*. of *Animals*.

2. By the *Acid* of digested Meats the *Choler* is coagulated in the *Guts*, and there the

Animal salso Acid is produced, the *Blood* is cooled, and its *Consistence* thickened, and the *Volatility* of its *Salts* allayed.

3. All *Acids* in *Animals* are from our Food, and when the Food contains a greater *Acid*, the more of it appears in the *Stomach*, as in *Cyder*, *French* and *Rhenish Wines*, *Vinegar*, *Sorrel*, *Verjuice*, *Lemons*.

4. All *Acidities* are produced naturally by Fermentation; so *Herbs*, *Fruits*, and all *Liquors*, as *Pottage*, *Milk*, whether fermented without, or in the *Stomach*, sensibly afford an *acid* Smell or Taste. The close union of the *Oyl*, *Acid* and *Earth*, which is naturally in all *Vegetables* and *Animal Bodies*, being loosened by Fermentation, which is an inward Agitation of *Particles*, the *Acid* begins to appear, as well as the *Oyl*, and both give a quick strong Smell, and a spirituous quick Taste to fermented *Liquors*.

This *Acidity* in the *Stomach* is volatile, like *Spiritus Salis*, & *Nitri dulcis*; and this *Acidity* gives the *Heart-burning* to *Animals*, if it be very sharp and active; but if in a natural State, it passes first off the *Stomach*, and is corrected in the *Guts* by the *Choler*.

Our *Vinegars*, made of *Acid*, *Oleous Plants* for *Sauces*, resemble this *Acid*, creating an *Appetite* in some, but in others, *Heart-burning* them, if *corrosive*, or meeting with a *choleric Humour* in the *Stomach*.

5. The

5. The Reliques of the fermented Meat are more sowre ; so when we distil the *Spirit* of *Elder-Berries*, the *spirituous Acid* comes off first, and a more fixed sowre *Acid* remains in the Still. This *Acid* may be compared to the *Sowreness* of *Acid Liquors*, whose *spirituous Parts* are evaporated, as sowre *Beer*. The *Contents* of the *Colcn* are of a sowre, *fætid*, *acid* Smell in *Rabbits* ; but the *Acidity* of their *Stomachs* is more grateful and *spirituous*.

By a great Quantity of *Acid Meats* there are more *Crudities* produced than can be corrected by the *Animal Choler* ; and then the *Chyle* and *Salts* are made very *Acid*, and the Consistence of the *Blood* thickened like *Jelly* ; and this sort of Diet pleases most in hot Weather and *Fevers*.

When this *Acerbity*, or *tartareous* State happens, we observe it by *Sowreness* in the *Stomach*, which, like *Vinegar-Vessels*, tinctures all our *Aliments* with the same Taste, the *Belly* is bound, *Gripes* and *Windiness* attend it, and all sowre *Medicines* and *Meats* increase it ; the *Blood* appears grumous, like the *Gellies* of sowre *Fruits*, or like *Blood* mixed with an *Acid Spirit* ; and therefore the *natural heat* is depressed, and the *Pulse* low, and the *Urin* pale and turbid, sharp or milky ; and in *Children*, the *Bellies* swelled with Ob-

stractions of the *Mesentery*: In older Persons, the *Acidity* which always abounds in the *Cholic-Guts*, give *hypochondriacal* or *splenetic Symptoms*; the *Face* looks *pale*; there is no *Thirst* nor *Fever*.

The evident Causes of this *tartareous State* of *Humours*, are,

1. Food which abounds with it, as the *Fruits*, and *sharp Liquors* made of *Vegetables*, *Red, White, Rhenish Wines*, and *Cyder*, *stale Drink*; and all sweet things, as *Honey*, *Sugar*, *Broths*, and *Milk*, and *Spoon-Meats*; and all sorts of *Herbs* offend such *Stomachs*, and produce great *Acidities*, as *Experience* daily confirms. *Well-Waters*, and *standing Vitriolic*, or *boggy Waters*, are also very injurious.
2. Cold Air, in which a *nitro-sulphureous Part* abounds, coagulates *Humours*, especially the *phlegmatic Lympha's*, and increases *Acidities*, and a greater *Appetite* is produced.
3. Sadness and Melancholy breed an *Acidity*, by dissipating the *Spirits*, and causing Stagnation of *Humours*, which also hinders the Separation and Exaltation of the *Oyl*, which naturally tempers the *Tartar*, and gives it a Fluidity in Liquors.
4. The *Binding* of the *Body* encreases *Acidities*.
5. A Defect in our Exercise produces it, for that is necessary to help the Distribution
and

and Digestion of our Nourishment, and the Circulation and Secretion of other *Humours*, and many times the Sweat smells sowre, and so evacuates it that way.

The internal Causes of the *tartareous* State of *Humours*, are,

1. A depressed and weak Fermentation; and the same happens to *crude* and *unfermented Wines*, for want of a due Fermentation.

2. The *Acrimony* of the *Bile* is wanting, which being less pungent and bitter, it cannot correct the *Acidity* of the digested Meat, nor turn it into *Salt*, nor, consequently, perfectly sanguifie the *Chyle*, which is the chief office of *Choler*. In the *Jaundice* the *Choler* is wanting; and the *Icteric* have a great *Sowreness*, and *Gripes*, with *Windiness*.

3. The *Chylous Humours*, like *Milk* kept in a hot Place, if they stagnate in the *Guts* or *Lacteals*, they soon coagulate, and become *Acid*.

4. Divers Diseases which depend on a *vitriolic Acidity* in the *Blood*, and are produced by too high a Fermentation, as the *Hypochondriac*, and *hysterical Distempers*, when they have long continued, weaken the natural Fermentation, and so produce that *Sowreness* in the *Stomach*, of which those Patients complained very much.

The Cure of this *tartareous* State, is,

I. By *Vomiting*, with some gentle *Antimonial*, or *Wine of Squills*, or *Sal Vitrioli*.

II. By *Purging*, with *Aloetics*, as *Pil. Aloephanginae*, *Salt of Wormwood*, and *Extract. Gent.* or *Tinct. Sacra*; adding *Æthyops Mineralis*, *Steel*, or *testaceous Powders*, to the *Aloetics*.

III. By correcting the *Acidity* or *Tartar*, by raising the *Fermentation* to its natural State, by the Medicines above-mentioned; the chief of which are the *acrids*, *aromatics*, *resinous*, *bitters*, *chalybeates*, and *salt Tastes*; so we add *Stum* to *crude*, *sowre Wines*, to raise the *Fermentation*. *Alteratives* do more good than *Purgers* in this state of *Humours*.

IV. The *Tartar* may be precipitated and carried off by *Urin*.

1. By *Lixivium* of *Lime* or *Oyster-shells*, and both *fixt* and *volatile Salts*.

2. By the *calces* of *Minerals*, or *ashes* of *Animals*, and *Egg-shells* burnt.

3. By *testaceous Medicines*, or *stony Minerals*, as *Chalk*, *Crabs-Eyes*, *Corals*, *Pearls*, *Egg-shells*, &c.

V. *Sudorific* decoctions evacuate the *sowre Humours* by *Sweat*; as *Salts*, *Mineral Sulphurs*, and *bitter Acrids*.

VI. *Clysters* draw off the *Acid* reliques re-stagnating in the *Colon*.

VII.

VII. The *Acrimony* of *Choler* is to be increased, and its Passage through the *Liver* promoted, by *bitter*, *acrid*, *Hepatics*, by *Steel*, and *Salts*, and *aromatic* or *fætid Gums* or *Oyls*. The defect of the *Choler* is supplied by those Medicines which precipitate the *Tartar*, as all burnt *Animal Ashes*, especially *Eggs* and *Oyster-shells*; so from *sowre Wines* we precipitate the *Tartar* by burnt *Marble*, or *Flints*, or *Lime*, *Chalk*, or *Lixivium*; so *Vinegar* is sweetned by *Crabs-Eyes*, and when the *Tartar* is precipitated, the *oily Part* is raised, and that conceals and tempers the *Acidity* of *Tartar*.

VIII. The Circulation of stagnating *Humours* must be promoted by *Steel*, and *Salts*, and *aromatic*, *acrid* Tastes.

IX. The Diet ought to be of *sweet*, not *sowre small Ale*, of *Bread* well fermented, and *Flesh-Meat*; but if the *Acidity* be much, no fermented Liquor in which there is *Tartar*, nor no *Vegetables*, nor *Liquids*, will agree with the *Stomach*; but these Physical Tastes may be given to our Diet.

1. *Aromatic*; as *Pepper*, *Ginger*.
2. *Acrid*; as *Mustard*, *Garlic*.
3. *Bitter*; as *Aloes*, *Wormwood*, and *hopp'd Drink*, and *Mum*.
4. *Saltiness*; as all *high Brines*; for *Salt* it self abates the *sowre* in *Vinegar*, and *Oysters* cure *Heart-burning*.
5. *Roast*,

5. Roast, and broiled, and baked Meats, and those that are burnt, are most agreeable: Chearfulness, moderate Exercise, constantly keeping the Body open, and a dry Air and Marl-Pit Water, are very agreeable to *sowre Stomachs*; and Springs flowing from Chalk-Stones, *Bath-Waters*, and strong Chalybeate Waters in small quantities, may agree well; and Wine and Water in many Constitutions for ordinary Drinks.

I have observed, That those who have too much *Acid* in their *Stomachs* by a natural Instinct, refuse all meally Meats, and eat little Bread, as we observe those who abound with much *Choler* to have a great Abhorrence to all bitter Medicines; and the observing the Diet of our Patients will frequently give some Intimation of the particular State of their *Humours*; for I believe it is generally true, that all Persons naturally desire that Food which is contrary to the present preternatural State of *Humours*, as watery *Liquors*, and *Acids* in *Fevers*, *Athes*, and Terrene Absorbers in the *Sowreness* of their *Stomachs*, *bitter Drink* in *Jaundice*; a weak *Stomach* is pleased with stronger *Liquors*, and *hot Constitutions* with the smaller Drink: This agreeableness of some Tastes every Person naturally observes; and if they use them moderately, they may preserve the natural State of their *Humours*, and correct the Disorders of them. There

There is a remarkable Observation in Sir *Theodore Mayhern*, about the Use of *Diuretic Liquors*, which ought to be used after a perfect distribution of the Nourishment, to which he attributes much in the Cure of the *Scrophulæ*, by a *Diuretic Drink*, *qui Tartarum liquidum ante sui coagulationem ad renes ablegare, & per vesicam expurgare, citra concoctionis præcipitationem, potuit*. From this Observation, I think a useful Rule ought to be drawn to use our *Diuretic Diet-Drink*: Towards 5 or 6 a Clock at Night, so many Hours after Meat, and, again, in the Morning, to carry off the *Tartar-Acid* of our *Chyle*; and to take some *testaceous Lozenges* or *Pills* with our *Diuretic Drinks*, which may coagulate with the *Acids* at that time.

C H A P. VII.

*Of the flatulent, crude Caco-
chymia of the Chyle, and
other Humours.*

WHEN the Aliments are half fermented, and then are checked in attaining their perfect Dissolution; or their Ferment is too weak to perform it, a *Windiness* is produced in the *Stomach*, for the *Spirits* of the Meat being somewhat loosened, are lodged in a *slimy Mass*, but cannot render it fluid, but only rarefie it into Bubbles, which distending by the heat of the *Stomach* burst, and create *Eruclation* or *Wind*. The most weak *Stomach* produces an *insipid Wind*, but the *Acid Rucltus* is a sign of some degree of Digestion. In these Cases there is an Oppression, or Fulness at the *Stomach*, and Weight, *Rucltus* frequently happen, and all hot Meats and Medicines agree well, but the cold ones do much Injury.

The *Stomach* it self is loaded with *slimy, acid Phlegm*, which is its weak Ferment, and the *Guts* distended by Wind.

The

The Constitution of *Humours* is *crude*, *mucilaginous*, and *windy*, as appears by the *Paleness* of the *Urin*, and *Frothiness*; and the *Spleen* is generally obstructed and pained, and the *Stools* like *Barm*, the *serous Lympha* being vitiated by the same *crude*, *windy Chyle*, it produces a *Heaviness* in the *Limbs* of the whole *Body*, and a *Fulness*, or *wandering*, *dull Pains*, &c.

The chief Effects of the *Wind* appear in the *primæ viæ*, where the *Chyle* ferments; or in the *Spirits*, which are made of the *crude*, *windy Spirits* included in the *Slime*; and for want of a due Volatilization, they produce in the *Nerves*,

1. A *Pandiculation*, or *Oscitation*, or *Stupor*, or *Cramp* in the *Muscles*; the *Noise* in the *Ears*, and *Vertigo* in the *Brain*, and *wandering Pains*.

2. *Inflations* of the *Parts*, as *Tympanitis*, and *windy Tumours* in the *Limbs*.

3. An *Inflation* of the *Lungs*, as the *Asthma* of the *Stomach* in *Sleep*, as the *Incubus* of the *Uterus*, after *Hysterical Fits*, of the *Penis* in a *Priapism*.

Many other Species of *Windiness* are produced from too high a Fermentation, when the *Ructus* are *bitter*, *acrid*, or *fætid*; or the *acrid Choler* ferments like contrary *Salts*, with the *sharp Acid* of the digested *Meat* in the

the *Jejunum*, and there produces *Flatuosities*; or when some extraneous Ferment extraordinarily rarefies and putrefies our *Humours*; but these belong to that State of *Humours* which depends on too high a Digestion.

The external Causes of *Flatulency*, are,

I. Crude Meats which are hardly fermented and digested, as the *hard*, the *acerb*, *watery*, *oily*, *viscous Styptic*, and too great a quantity of Meats; for these, by the strongest Ferment, will rarely attain a due Fermentation in the *Stomach*.

1. The *watery*, as *Broths*, and *Milk-Meats* are windy to *Stomachs* troubled with *acid* Ferments; and all *small Liquors* hinder their Digestion; and for these *Stomachs*, the more solid Diet of *Flesh-Meat* is best, and *small Ale*, and nothing of *Vegetables*, but well fermented *Breads*.

2. The *viscous Vegetables*, which contain a pungent Salt mixed with much *Mucilage*, as *Onyons*, *Leeks*, *Garlic*, *Radish*, *Turnip*, *Cabbage*; these have a *Mucilage* hard to be digested, and an *Acrimony* which rarefies it into *Wind*, and *Ructus*; and from hence we know all windy *Herbs*, by having an *Acrimony* lodged in a *Mucilage*.

3. All the *sweet* and *mucilaginous Legumina*, as *Beans*, *Peas*, are hardly digested, by reason of their *Sliminess* and *Sweetness*, apt to ferment.

Wines

Wines of the sweet and mucilaginous Fruits, as Figs, Raisins, Grapes, and other Fruits, and all the Mault-Liquors made of Corn, are full of a vegetable Mucilage, and contain also an oily, acid Spirit, which is stopt from its due Fermentation by the Sliminess, or outward Accidents, or for want of a due Ripeness in the Fruit it is made of; for this Reason, Wines made of our acid and crude English Fruits are very windy, the airy, elastic Particles seem to mix with the oily, acid Spirits of all Vegetable Liquors; and when they are not thoroughly fermented those elastic Particles remain mixed with the crude, slimy Liquor, and create the Windiness of it; or if any fermenting Liquor be shut up in Bottles before those elastic, airy Particles have evaporated, which are observed to produce the Froth in all fermenting Liquors; they create a great windiness in those bottled Liquors, and they become very unhealthful to flatulent Bodies.

Sugar and Honey make windy Liquors, because they are apt to ferment, and their Spirits are depressed, and the airy, elastic, fermenting Particles are detained by their innate Gummosity.

4. *Oyls and Fats are hardly digested, because of the Mucilage they have joyned with them; so Butter, Oyl, and fat Meat, lie long in the Stomach, and are hardly turned into a*
thin

thin Chyle ; and for this reason *Chefsnuts*, and all *oily Nuts*, are commonly thought *windy*.

5. All *crude Plants*, as *Spinage*, *Lettuce*, *Purslain*, *Mushrooms*, are *windy*, by reason of their *crude Mucilage*, and unaptness to be digested.

6. All *Acids*, and *acerb Fruits*, are *windy*, as being less apt to ferment, unless with contrary *Salts*.

Mr. *Boyl's Vacuum* proves all *Liquids* to be full of *airy Particles*, which rise upon the pumping of the *Air* ; but that *Acids* have the least of it ; and therefore I have observed *March-Drink* to have the least *Windiness*, and all other ripe *Liquors*.

7. All very *mucilaginous Flesh-Meats*, as the *Extremities* of *Animals*, and *Fish*, and *Water-Fowl*, are accounted *windy*, by reason of their abundant *Sliminess*.

II. All external Causes which hinder a just Fermentation, produce *Windiness*, as *Idleness*, want of *due Exercise*, too much *Sleep*, cold *Air*, *Fear*, *Sadness*, too much *Evacuation* by *Venery*, *Baths*, *Exercise*, spend the *Spirits* too much, which help the Invigorating of the *stomachic Ferment*, and all *Evacuations* stopt in the *Hæmorrhoids* or *Menses* vitiate the *stomachic Ferment*, by mixing the *Guts* with it ; and in *Obstructions* of the *Viscera* are blown up continually.

The

The internal Causes of a *cold Flatulency*,
are,

1. A *Stomachic Ferment* which wants *Spirits*, being only *sowre*, or *mucilaginous*, *acerb*, or *austere*.

2. The *vapid*, *watery*, *mucilaginous* or *crude* State of *Blood* and *Humours*; for they who have a strong Heat, or due Fermentation, have no *Flatulencies*, unless the Meat be of the qualities above-mentioned, which are unfit for Fermentation, and so cannot thoroughly be dissolved by it, by reason of their unaptness to ferment.

They who have a very low Digestion have no *Windiness*, because they cannot raise the *Spirits* in the slimy Meat so far as to become *windy*; but those only are flatulent who can digest to some degree, whereby the *Spirits* begin to separate, but do not perfectly volatilize themselves, and separate the *aery Particles* from the *fermenting Liquor*, which, by its *Sliminess*, retains much of the *aery, elastic Particles*.

3. When the *Pylorus* is so obstructed, that the *alimentary Tincture* does not descend to the *Guts*, it becomes *windy* in the *Stomach*.

4. When the *Choler* does not correct the *Acidities* of the *Aliments* digested, as in the *Jaundice*, *Flatuosities* are produced.

5. In the Obstruction of the *Viscera*, the *Spleen-Juyce*, or the *Hepatic*, is mixt with the *animal Ferment* in the *Stomach*, and vitiates the *Digestion*; or the *conglobate Glands* send their *serous Lympha's* thither in *Catarrhs*, or the Obstructions hinder the Distribution of the *Chyle*.

The Cure of *Flatulency* consists,

1. In Evacuation of the *slimy Humour*, which burthens the *Stomach*, by *Vomits*, and *Purges*, and *Clysters*, which are *Carminative* and *Phlegmagogues*.

2. By avoiding all noxious, windy *Meats* and *Drinks*, and using a contrary Diet to help *Digestion*, as those above-mentioned, and all the *carminative Aromatics* added to it; as *Pepper*, *Ginger*, *Cloves*, *Nutmegs*; and by avoiding all fulness of Diet, and *Surfeits*, and to use a very simple Diet of *Flesh-Meats*, *small Ale*, and *Bread*, and no other; to avoid *Suppers*, and *Venery* after Meat, and much Exercise, and all sorts of *Vegetables* in Diet, as *Legumens*, *Mault Drinks*, and *Sallets*.

3. The *pituitous*, *acerb* and *vapid* Temper of the *stomachic Ferment*, and of the *Blood*, must be corrected by *Digestives* above-mentioned; and the *Phlegmagogues* must evacuate it, as *Pilulæ Aloephanginæ*, &c.

4. The Matter rarefied into *Flatus* must be evacuated by *Pil. Mastich. Aloephangin.* by *Clysters* and *Vomits*.

5. The

5. The *Flatuosities* must be discussed.

1. By sweet *Aromatics*; as *Semen Ammeos* 3ss. boiled in *Wine*, or *Caraways*, *Cummin*, *Fenil*, *Aniseed*, *Dill*, *Lovage*, *Parsly-Seeds*, infused in *Wine*, or *Eleosacchara* of them; as, *Fenil. Ol. Gutt.* 6. in *Wine*, *Daucus-Seeds* in *Beer*, *Peptic Powders* of the *Seeds* mentioned, and *testaceous Powders*, *Roots of Angelica* in *Powder* or *Wine*, *Spirit* or *Tincture* of *Imperatoria*, *wild Parsnip-Seeds*, *Lovage-Roots*, boiled.

2. By the *acrid Aromatics*; as *Pepper*, whose *Tinct.* with *Brandy*, or *Spirit* of *Sal Armoniac.* or *Diatrion*, *Pipereon in rotulis*, cum *Sacch. &* *Ol. Feniculi*, *Cubebs*, *Cardamom* in *Spirit*, *Tincture* or *Wine*.

3. The *Laurel Aromatics*; as *Ol. Cinnam.* *Caryophill. cum Sacch. Forbiculi*, addend. *Ambr. Gryf. Confect. è baccis Lauri* 3ij. ante pastum; *Orange Peels* and *Lemons*, *Nutmegs*, *Winter-Bark* in *Tincture* or *Wine*, or *Bay-Berries* in *Wine*.

4. *Terebinthinate Aromatics*; as *Juniper-Berries* candied, No. X. or *Syrup* of the same made with *Wine*, or *Juniper-Wine*; *Enula* compound Candied.

5. *Acrid, sweet Aromatics*: *Calamus Aromaticus*, *Ginger*, *Zedoary*, *Galanga*, which may be infused in *Wine* or *Brandy* thus, R *Calami Aromatici*, *Zedoarii*, *Galangæ*, *Zinzib. an.* 3ij. *Senæ* 3vi. *Agarici*, *Turbethi, an.* 3iij. *Cardamom*

5i. *Fiat infus. in Vin. alb. ℥ij. colat. Capiat ℥ij.*
 Let Zedoary be chewed in the Mouth, or
 infused in Wine.

Use *Costus* and *Iris* in Wine or Tincture.

6. *Cephalic, acrid, styptic Aromatics, and bitterish*; as *Calaminth, Mint, Penny-Royal, Thyme, Rosemary* in Wine, or their Oyls in Lozenges, or *spec. Diacalaminth* in Lozenges.

7. *Bitters* deterge the *phlegmatic Matter* joyned with *Aromatics*; as *Wormwood-Wine* with *Sal volatile oleosum*, or *Enula*, and *Orange Peels, Chamomil Flowers* two handfuls in a Bottle of Sack; bitter Wines of *Centaury, Gentian*, and *Orange Peels*.

Decoction of *Polium Montanum* in Wine; or Conserve of *Tansie*.

Theriaca, or *Mithridate* with Wine, Syrup of *Carduus* ℥ij. with ℥i. of Extract of *Calamus Aromaticus*.

8. *Fætid*s; as *Rheu* in Wine, or Syrup, or distilled, or in Clysters; and outwardly, Oyl of *Rheu*, and *Amber*.

9. *Animal Fætid*s; as *Castor*, and the Dungs of *Animals*, as that of *Pigeons*, and *Hens*; or Infusion of *Horse-Dung*, and the same fried in Oyl, applied outwardly.

10. *Vegetable Acrids*, or *Corrosives*; *Garlic*, and *Onyons*, and *Aaron Roots*.

11. *Terebinthinate Fætid*s; *Rad. Asari, Nardi, Savin*. boiled in Wine, and applied as a Cataplasm, and the Wine drank.

12. *Narcotics*: R^c. *Aqua Fl. Cham.* ℥iv. *Menth. Mirabilis*, an. ℥iss. *Spir. Nitri dulcis* ℥ss. *Laud. gr.* ij. *Ol. Anis.* Gutt. 2. *Syr. Fœniculi* ℥i. *Misce.*

The external Applications are Fomentations of *Aromatics* boiled in *Wine*: *Calamus*, *Zedoary*, *Galanga*, *Cyperus*, *Mace*, *Cinnamon*. Of *Bitters*: *Wormwood*, *Chamomil*, *Bay-Berries*, *Mint*, *Empl. de Baccis Lauri*, *de Cymino*.

Balsams: *Ol. Nutmegs* expressed ℥ss. *Balsam. Peru* ℥ij.

Oyls: *Chymical Ol. Salviæ*, *Caryophill.* *Dill*, *Rheu*, *Amber*.

Bags of *Millet*, *Cummin*, *Aniseed*, fryed with *Salt* and *Oats*.

Bread or *Flannels* dipt in *Brandy*, in which the *Aromatics* are infused.

Clysters of *Sack*, and *carminative Oyls*, or ℥ij. of *Aqua Vitæ* added.

Or *Purgers* added, as *Benedict. Laxativ.* ℥i. *Infus. Croci Metall.* ℥iij. to a *Carminative Decoction* of *Calamint*, *Penny-Royal*, *Origanum*, *Fl. Chamomil*, and the *Seeds*, with *El. è Baccis Lauri* ℥iss. *Oyl of Aniseeds* ℥ss. in the *Tolk* of an *Egg*.

A *Cake* may be fryed of *Tolks* of *Eggs*, and *Cummin Seeds*, and *Oyl of Chamomil*.

Aniseeds, and *Chamomil Flowers*, infused in *Aqua Vitæ* for a *Fomentation*.

Cupping-Glasses applyed to the *Belly*.

Plaster Tachamahac, Caranna, and Plaster of Bay-Berries mixt in equal Parts.

A Pound of *Ginger* may be boiled in a Vessel of *small Ale*, for ordinary Drink.

In the Cure of *Flatuosities* we must insist chiefly on Digestives, which promote the Fermentation of *Humours*; the discussing the present *Flatuosities*, and evacuating the *slimy Matter* cannot hinder the Production of new *Flatulencies*: but the Curing the *low Fermentation*, perfectly cures all *Flatulencies*; but those which depend on the *Obstruction*, and *Tumour* of the *Viscera*, cannot be cured without a respect to these Distempers that occasion the *Flatuosity*. Such are the *Flatuosities* in the *Tympany*.

And the Distempers of the *Nerves*, as *Hysteric Fits*, and *Asthma*, which produce *symptomatical Inflations* of the *Guts*, which cause *Windiness*; and that is cured by removing the original Distemper.

The *Windiness* appears much in all new fermented Liquors; and the further they are fermented or ripened, the less windy they are. The bottling Liquors stops their Fermentation; and therefore, such Liquors are to be avoided in the windy *Cacochymia* of our *Chyle*.

If the Matter in which the windy *Spirits* are included be not well evacuated, the *Carminatives*

minatives occasion a greater *Flatuosity*, by rarefying the *Wind*. *Ginger* and hot *Sherry* I have observed very good in *Windiness* of the *Stomach*, and *Cholics* thence produced.

Boiling any *Liquor* that is *windy* evaporates the *Spirits*, and the same *windy Spirits* may be discluded out of *Animal Humours* by Exercise or Bathing.

The drinking boiled or warmed Drink with *Steel*, may be convenient in the *Windiness* of the *Stomach*.

The drinking the *Bath-Waters* washes off the *sowre Tartar* from the *Stomach* and *Blood*; and bathing in those *sulphureous Waters* very much exalts the Fermentation of the *Chyle*, and higher digests the *Blood*; and upon these accounts, both inwardly and outwardly, it agrees with most cases depending on a depressed Fermentation of *Humours*, but disagrees with the contrary, which arise from too high a Fermentation of our *Humours*, especially in their beginning, whilst a high Fermentation lasts; and for this reason, Bathing disagrees with hot *Bloods*, the *Hypochondriac*, *Hysteric*, *Asthmatic*, *Nephritic*, *Convulsive*.

C H A P. VIII.

Of the Serous Cacochymia
of Animal Humours.

WHEN the *Chyle* is no way changed into the *Serum* of the *Blood*, but swims mixed with it, that is the lowest state of *Crudity* in the *Blood*; for the *Chyle* ought to be changed into the *Serum*, by the *Saltiness* and *Oylinefs* of the *Blood*, which absorbing the *Acid* of the *Chyle*, it loses its *Milkiness*. The *Serum* and *Chyle* differ most by their *Colour* and *Consistence*; for *Acid Spirit* of *Nitre* makes the *Serum* *Milky*, and *Spirit* of *Sal Armoniac.* makes it clear *Serum* again. We often observe the *Chyle* on the *Cake* of *Blood* in *milky Spots*, or mixed much with the *Serum* in *Cachectic* Persons; and this is cured by *Chalybeates*, and *volatile Salts*, which turn it to *Serum*.

The next degree of *Crudity* in the *Sanguification* of our *Chyle*, is, when the *Serum* is not digested into a *gelatinous Lympha*, fit for the *Nourishment* of the *Solid Parts*; for the
viscid

viscid part of the *Serum*, which evidently contains the *caseous* parts of the *Chyle*, as appears by its *Inspissation* by the *Fire*, or *Coagulation* by *Alum*, or other *Acids*, is naturally changed, by a long *Circulation* and *Separation* of its *superfluous Humidity*, by *Sweat* or *Urin*, into the *Lympha salsa serosa*, which being exposed to the cold *Air*, when it is taken out of the *lymphatics*, it presently turns to a *Jelly*.

There may be a further degree of *Crudity* reckoned, when the *gelatinous salsa Lympha*, made out of the *Serum*, does not become *fibrous*, for want of a due *Viscid*ity or *Gumminess*; for then we believe *Humours* have attained their perfect *Digestion*, when there appears a *fibrous Hypostasis* in the *Urin*, which depends upon the *viscid* part of the *Serum* turned into the *fibrous Cake* of the *Blood*.

The *rosy* or *red oily Particles* of the *Chyle* ought to become more *red* and *florid*, by a long *Digestion*, by their *Mixture* with the *Volatile Salt*, and *red Oyl* of the *Blood*; but in *Cachectic* Persons we observe the *Cake* of *Blood* to be of a *pale, Pink Colour*, and less *florid*, like *Milk* and *Blood* mixed.

The *Acid* part of the *Chyle* ought to be digested into the *vitriolic Acid* of the *Blood*; but by reason of the *Crudity* of the *Blood*, it
keeps

keeps its *tartareous* Nature, and hinders the Rarefaction of the *Blood*, and abates the *Volatility*, both of the *Volatile Salt*, and *Oyl* in the *Blood*.

The abundant *Aquosity* of the *Serum* ought to have been evacuated by *Sweat* and *Urin*; but the *Chyle* being not fully digested, the *watery* part cannot easily be separated from the *viscid* contents; neither can it acquire its *Salt* Tastes, which fits it for a *Secretion* by its proper *Glands*: hence it will inevitably follow, that the *Veins* and *Lymphatics* are greatly filled and distended by the abundance of the *Serum*, which produces divers Distempers in several parts.

I. If it stagnates in the habit of the *Body*, and is mixed with crude *Chyle*, which cannot circulate through the *Lymphatics*, it produces an *Anasarca*.

II. If it stagnates in any particular Part, it produces external *Tumours* containing *Water*.

III. If it be evacuated into divers *Cavities*, it produces divers sorts of *Dropsies*; as,

1. *Hydrops Ascites*, when the *Serum* breaks the *Lymphatics*, and fills the *Cavities* of the *Belly*, either by Fulness of the *Serum*, or by the Distention of the *Vessels*, which are compressed by the *Tumours* of the *Viscera*.

2. The *Serum* may be evacuated into the *Cavity* of the *Head*, in the *Hydrocephalus*.

3. *Hy-*

3. *Hydrops Thoracis*, is when it is evacuated into the *Cavity* of the *Breast*.

4. In the *Dropsey* of the *Womb*, the *Water* is contained in the *Cavity* of it, or its *Testicles*, or distends the *Lymphatics* into *Vesiculæ*.

5. In the *Hydrocele*, the *Water* is evacuated into the *Cods*.

These Distempers depend on too great a *Serosity* of the *Blood*; but they being Evacuations of it into particular *Cavities*, ought to be treated of under that head.

The external Causes of the *Serosity* of the *Blood*, are,

I. A wet and a moist Region, which supplies great, foggy Air, for our Respirations; and by that we imbibe its *Humidities*, and that also hinders Transpiration, and so increases the *Serosity*.

II. A crude, watery, mucilaginous Diet of *Vegetables*, *Fish*, immoderate Drinking, *Milk-Meats*, *Broths*, *Water* drinking, *Herbs*, and *Fruits*.

III. The Intermission of dew Exercise, which ought to discuss by *Sweat*; and that also helps *Chylification*, *Sanguification*, and the *Circulation*, and Secretion of *Humours*.

IV. The Suppression of *Evacuations* by *Sweat* and *Urin* in the *Stone*, or the Suppression of *Fontinels*, *Menses*, *Hæmorrhoids*, or *Looseness*, make the *Blood* more serous.

V. The

V. The *Sanguification* is weakened by great Evacuations, as *Hæmorrhagies*, *Dysenteries*, *Fluxes* of the *Menses* ; as also, by the *Fluor Albus*, and *Vomitings*, and *Quartanes*.

VI. *Sadness* and *Sleep* stop the Motion of our *Spirits* and *Humours*, and by that means hinder our *Sanguification* of the *Chyle*.

The internal Causes of too much *Serosity* of the *Blood*, are,

1. A weak *Ferment*, and a watery *Chyle*.
2. A vapid, watery *Blood*, which is less florid and oily, and wants its due *Saltiness*, by which it ought to turn the new *Chyle* into the *Serum*, and the *Cake* of *Blood*.
3. The *Circulation* of the *Blood* being hindered by any inward *Polypus*, or *Tumour* of the *Viscera*, as the *Lungs*, *Liver*, *Spleen*, *Kidneys*, either cause an *Extravasation* of the *Serum*, or hinder its *Digestion* and *Sanguification*, and the *Stagnation* of it is observed in some part.

The *Circulation* of the *Blood* is deficient in the *languid* and *dying*, and their *Legs* pit.

The *Circulation* being often stopt, occasions that *Dropsies* follow, *Asthma's*, *Hysterical Fits*, and other *Convulsions*.

The Signs of a *serous Constitution*, and of the *serous Cacochymia*, are,

The Use of watery *Meats* and *Drinks*, Evacuations of *Sweat* or *Urin*, or any other stopt.

The

The *Swelling* of the *Belly*, *Legs*, or *Face*, under the *Eyes*, much *Sweating*, or great quantity of *pale Urin*, *watery Stools*, and much *Water* contained in the *Blood*, when let forth, above an equal weight of the *Serum*, in respect of the *Cake*.

The Cure of the *serous Cacoehymia* requires,

First, A *dry Diet*, and that which is *heating*, drinking *Wine*, or *strong Beer*, *Roast* rather than *Boiled*, all manner of *salt*, *bitter*, *acrid* or *aromatic Pickles*, and abstinence from much *Liquids*, only *thiis of Wine* in a *Day*, for *40 Days*, or else with *Wormwood*, *Juniper-Berries*, *Anti-scorbutics*, and *Ashes* in constant *Drink*.

Secondly, The *Evacuation* of the *Chyle*, which is *watery*, from the *primæ viæ*, *Blood*, or *Cavities* of the *Body*.

1. By *Purgers*, which, by their *Tithymaline Acrimony*, carry off the *Water*; as *Extract. Esulæ*, *Pil. De Gambogia*. *Turbeth*.

2. Or by *Purgers* which have an *acrid Resin*; as *Jalap*, *Mechoacan*, *Scammony*; with *Merc. dulcis*.

3. Or by *nauseous Bitters*; as *Syrup. de Spina*, *Roots* and *Seeds* of *Dwarf Elder*, *Juyce* of *Briony*, *Solanum Lignosum*, *Soldanella*, *Troches* of *Alhandal*, *Elaterium*, *Extract of Hellebor*.

Or

Or by other gentler *Acrids* ; as *Juyce* of *Iris*.

Or *Vitriolic Minerals* ; as *Crystals* of *Silver*, *Squamæ Aëris*, *Antimonial*s, *Infusion* of *Crocus Metallorum*, *Mercurius Vitæ*, *Turbeth. Mineral.* and these work by *Vomit*, and evacuate the *Serum* both ways.

Thirdly, The *Serum* must be evacuated out of the *Cavities* by *Paracentesis*, unless the *Dropſie* depend on a *Schirrus* of the *Viſcera*, for that is incurable.

The *Parts* may be pricked with a *Needle* above the *Knee*, and *Escarotics* applied of *Aſh-Aſhes*, or *Blyſtering Plaster*.

Fourthly, The *ſerous Matter* is moſt plentifully evacuated by *Urin*.

1. By *Lixiviums* of *Broom*, *Juniper*, *Bean-Aſhes* infused in *White-Wine*, with *Orange* and *Limon* *Peels*, or *Flints* extinguished in *Wine*.

2. By *Salſo-Acids*, *Tart. Vitriol.* *Sal Armoniac.* or *Salt* of *Wormwood*, and *Spirit* of *Salt* diſſolved in any *diuretic*. *Julep*.

Sal. Succini, *Sal. Prunell.* or *Salt* of *Tartar* nitrated, the *Herb Kali* half a dram three *Mornings* ſucceſſively.

3. By *acrid* and *cauſtic Turpentine*s, *Juniper-Berries*.

Golden

Golden Rod, *Conyza* Roots, *Enula Campane*, *Squinanth*.

Asarabacca Roots, *Spikenard*.

Leaves of *Arse-smart*.

Savin, or *Pine-Leaves*.

Hepatica Terrestris.

4. By watery Caustics.

Ranunculus Hederaceus, *Aaron* Roots.

Anagallis Mas, *Ros Solis*.

Squills, *Garlic*, *Acrids*; as *Garlic* infused in *Ale*, or its *Juyce* in *Broths* or *Onions*, or *Leeks* in the same, or *Nettle* Roots, which have a caustic *Juyce* in them.

5. By Cresse *Acrids*.

Infusion of *Mustard-Seed* in *Wine*, *Spirit* of *Scurvy-Grass*, and the *Leaves* of *Scurvy-Grass*, *Juyces* of *Water-Cresses*.

6. By aromatic, sweet *Acrids*; as,

Daucus, *Parsley*, *Fenil*, *Dill-Seeds*, distilled *Water* from *Water Parsnip*, *Roots* of *Rog long Fenil*, *Smallage*, *Parsley*, *Chervil*.

7. By the smoaky, bitter *Acrids*; as,

Eryngo, *Scabious*, *Carduus*, *Roots* of *Burdock*, and the *Seeds*.

8. By the aromatic, bitterish *Acrids*; as,

Penny-Royal, *Hyssop*, *Rosemary*, *Sage*.

9. By the acrid *Legumens*; as,

Asparagus, and *Butchers Broom-Roots*, *Periclymenum* *Flowers*, *Broem*.

10. By the acrid *Fætids*; as,

Rhen,

Rheu, Crocus.

Rheu boiled in *White-Wine*, *Posset-Drinks*, help the *Tympanitical* to make *Water* plentifully.

11. By the bitter *Acrids* of a *wormwood* Taste; as,

Sea, and common *Wormwood*.

12. By the acrid *Bitters* of a *Mather* Taste; as,

Radix Rubiæ.

13. By *Acrids* of a *laurel* Taste; as, *Bay-Berries*, *Ash-Seeds*, tops of *Holly*, and *Ivy-Berries*.

14. By acrid *Insects*; as, *Millepedes*, *Earth-Worms*, *Scarabæi*, *Grashoppers*.

15. By burning *Acrids* of the *Orris* kind; as,

Xyry, *Acorus*. *Atid*

16. By the bitter ~~*Acrids*~~; as, *Grana Alkakengi*, *Bacc. Fraxini*, *Bubulæ*.

17. By volatile *Salts*, and chymical, acrid *Oyls* of *Vegetables*, or *Bitumens*.

18. By *Acid Minerals*, *Spirit* of *Salt*, *Oyl* of *Vitriol*.

By acid *Vegetables*, *Juyce* of *Lemons*, *Cream* of *Tartar*. *Vinegar* helps the *Thirst*.

19. By the *lamium Fætid*s; as, *Hedera Terrestris*.

20. By

20. By the *strong Bitters*; *Salvia Agrestis*,
Lupulus, *Scordium*, *Chamædrys*, *Marrubium*,
Vervein.

21. By the *sweet, nauseous Bitters*; as,
Centaury, *Trifolium Palustre*, *Gentian*.

Fifthly, The *Serum* may be evacuated by
Clysters; as,

1. *Urinous*.

2. *Terebinthinate*.

3. Of the *bitterest Purgers*; as *Coloquin-
tida*.

4. By *Sulphurous Medicines*; as *Infusion*
of *Crocus Metallorum*.

5. By *Tithymaline Acrids* added; as *Gam-
bogia* 3ss. dissolved in *Sack*.

Sixthly, A *sweating Diet* of *Guaiacum*; and
with that he may dilute his *Wine* for or-
dinary *Drink*. *Baths*, or *Fomentations*, or
the frequent Use of *Venice Treacle*, discuss by
Sweat; and the *Balsamum Polychrestum*.

Seventhly, All *Hydropical Tumours* may be
discussed by *Baths*, *Fomentations*, *Cataplasms*,
Oyntments, *Plasters*.

1. By the *acrid, fætid, and aromatic Plants*
above-mentioned, being boiled in *salt Liquors*;
as *Sea-Water*, a *Lixivium* of *Ashes*, or *Aqua*
Calcis.

G

2. By

2. By the *Stercora* of *Animals* boiled in *Wine*, *Urin*, or a *Lixivium*, and *Sulphur* added to them.

3. By *Purging Unguents*; *Ung. Agrippæ*, *Arthanitæ*, *Oyntments* of *Elder Bark*, and *Dwarf Elder*. By *Oyntment* of *Birch-Bark* and *Leaves*.

4. By *Caustic Plants*, or *Animals* boiled in *Oyl*; as *Oyl* of *Scorpions*, *Oyl* of *Flammula*.

5. *Cataplasms* of *Roots* of *Wild Cucumbers*.

Indication requires the higher Fermentation of the *Mucilaginous Chyle*, by the Tastes mentioned in the Cure of a *low Fermentation*; but these more specifically respect the *Serofities*, and cause its Sanguification.

First, All sorts of *Bitters*.

I. The *nauseous Bitters*, or *Lychnis Bitters*; as *Centaury*, *Buck-Bean*, *Saponaria*.

II. The *Mather Bitters*; as *Rubia*, *Celandine*.

III. The *Wormwood Bitters*.

IV. The *smoaky Bitters*; as *Carduus*.

V. The *Turpentine Bitters*; as *Enula*, *Eupatorium*.

VI. *Lamium Bitters*; as *Chamædrys*, *Marubium*, *Scorodaria*.

VII. The *Pea Bitters*; as *Broom*.

VIII. The *Laurel Bitters*; as *Ash*, and *Birch*, *Bark*, and *Seeds*.

IX.

IX. *Bitter Gums*; as *Aloes*, *Myrrh*, *Ammoniacum*.

1. These *Bitters* supply the want of the *bitter Acrid* of *Choler*, necessary for Digestion and Sanguification of the *Chyle*.

2. All *acrid* and *caustic* Plants make the *Blood* more *florid*, and so we find them to help Sanguification.

3. All *Salt* Tastes, volatile and fixed, make the *Blood* more *florid*; they supply the want of an *Animal Salt*, which, by absorbing *Acids*, turns the *Chyle* into *Blood*, and promotes the Mixture and Sanguification of both.

4. *Testaceous Medicines*, the Calces of *Minerals*, and Ashes of *Animals*, by absorbing the *Acidities* of *Chyle*, help the Mixture of it, and the *Blood*.

5. *Oily*, *acrid*, and *resinous* or *oily* Plants, exagitate the *red* Part of the *Blood*, and supply its defect; as all *Aromatics*, and *aromatic Wines*, and *volatile*, *oily* Salts.

6. *Mineral Sulphurs* raise the *oily*, *red* Part of the *Blood*; as *Chalybeats*, *Antimonial*s, *Cinnabarines*.

I tryed the salt, clear, limpid Water, taken out of the *Belly* of an *Hydropical* Person by *Tapping*, and could neither inspissate it by *Fire*, nor coagulate it by *Vitriol* or *Alum*. This was the *crude*, *lymphatic Liquor*, too *serous* and *crude*; the *Spleen* was *Schirrous* after a *Quar-*

tain: This *Lympha* sometimes appeared *milky*.

Though all the *Serum* be evacuated by *Purgers*, *Diuretics* or *Blisters* on the *Legs*; yet it will regenerate, if the Digestion of *Humours* be not raised, and the *Schirrosities* cured which caused its Evacuation into the *Cavities*, and the breach of the *Lymphatics* stopt, which seems impossible.

An *Hydropical* Gentlewoman was *Tapped* once a Week, for fourteen Weeks, and lived in a tolerable State for some time longer, by the help of five Grains of *Laudanum* every Night. No *Diuretic* caused *Water*; but *Wine* and *Water* helped that most, and allayed the *hectical Symptoms*. Every time after *Tapping* more *Water* was made by *Urin*; but the *Belly* filled with the *Serum* in a Weeks time, and a Gallon or two was taken out every Week; but, at length, the *Belly* did not fill much, but sank, and a *Plaster* laid on helped its *Tumour*; and a *Consumption*, at last, most afflicted the Person who was before so *Hydropical*.

I have observed that *Fomentation* after *Tapping* abates the *hardness* of the *Belly* and *Viscera*.

C H A P. IX.

Of the Fermentation of the Humours into degrees above their Natural State.

WHEN the Fermentation in the *Stomach* is carried too high, the *Contents* of the *Stomach* become *bitter* or *rancid*, very *acid*, *acrid*, or *salt*; and so are all the *Humours* thence produced.

By a strong Fermentation all the Parts of the *Chyle* acquire an *Acrimony*; The *oily* Part becomes *rancid* and *bitter*, and *stinks*; the *acid Tartar*, being volatilized, becomes *corrosive*, or *acid-acrid*; the *earthy* Part neither adhering to the *acid* nor *oily* Part, is left in the *primæ viæ*, to go off by *Stool*; and the *Mucilage* of the *Meat* being attenuated by a high Digestion or Putrefaction, the *Chyle* becomes more *thin*, and *fluid*, and *noctuous Ructus* frequently rise from the *Stomach*.

Not only the *Chyle*, but the *Blood* also is vitiated by too high a state of the Principles of the *Chyle*, and from the Volatility of the *Oyl*, and the Pungency of the *Acid*, the *Blood* is made more *florid*, and the *Vitriolic Acid* more *sharp* or *corrosive*, like the *Spirit* of *Acid Juices* high fermented. A *rosy Chyle* will make a *florid Blood*, and an *acid, bitter, salt, acid Chyle* will give the same quality to the *Blood*, and a *putrid, thin Chyle* will make a *putrid Blood*.

All the Diseases depending on this State of *Humours*, are, the hot Constitutions of *Humours*, and are contrary to the former described; which are the several Species of cold Constitutions; *For* to the Mucilage of *Humours*; a putrefied thin Consistence is contrary; and to the *Acerbity*, a *vitriolic Acidity* and *Saltiness*; and to the *Serosity*, an *Inspissation* or *Viscidty*; and to a *crude Flatulency*, a *rancid Flatuosity*, and *nervine, wandering Pains*.

When the *oily, acid, earthy* or *viscid* Principles of *Chyle* acquire too high a State by Fermentation, they produce these several Species of *hot Cacochymia's*:

1. A *Bitterness* of the *Chyle* and *Humours* in *Choleric Constitutions*.

2. The *Chyle* and *Blood* in the *hot Scurvy* have a *rancid, oily State*.

3. A

3. A Viscidity of the *Serum*, or Inspissation of the *new Chyle* mixed with it, as in *Inflammations* and *Rheumatisms*.

4. A *Saltiness* of *Blood*.

5. A *Vitriolic Acidity*, or *Corrosiveness* of *Blood*.

6. A *Putrefaction* of *Blood*, which causes its want of *Fibers*, or *Thinness*, or *Fluidity*.

7. A *Nidorous Ructus* from the *Stomach*, and a *hot, nervine Flatuosity*, with *convulsive Pains*, or *hypochondriac* or *hysteric Symptoms*, and a *feverish Temper* of *Blood*.

The evident Causes of too high a Digestion, are,

I. A *Hot Diet*, which digests and ferments too quick; so *acrid, aromatic, vinous, Salt*, and very *sweet Meats*, produce an *acrid, aromatic, salt, vinous Chyle*; and *Honey* and *Sugar*, and *sweet Wines*, are apt to ferment too much. All *Flesh-Meats* high *salted, peppered, or pickled, fried, broyled, or baked Meats*, breed a *Chyle* too *rancid* or *hot*. *Fish*, as *Salmon*, or *Crabs, Lobsters*, are apt to *Surfeit*, and putrefie in the *Stomach*. All *Meats* a little putrid before they be eaten exalt the Fermentation too much. All *Gravies, Anchovies, Oysters*, and the *Indian Sawces*, are too great Stimulators of a Fermentation in the *Stomach*, and all those *Meats* which contain an *Animal Ferment* in them, as *old Cheese*.

II. By immoderate *Labour*, by the *Heat* of the *Season*, or the *Countries* nearer to the *Sun*; by *Cares*, *Watchings*, *Anger*, *Joy*, *Pain*, the *Blood* is heated, and its *Circulation* quickened, and *Sanguification* is much promoted.

III. The same *Causes* produce a *bitter*, *acrid Bile*, which promote *Digestion* much, and *Sanguification* also. *Fasting* sharpens the *Choler*; and those who are apt to *Vomit Yellow Choler*, and those who digest too fast, have *Choleric Fluxes*. In *Young Men*, and *hot Seasons*, *Choler* much abounds.

IV. The *Retention* of *salt*, *fætid Serum*, for want of *Evacuation* by *Sweat* or *Urin*, produces *Feverish Dispositions*, which cause a high *Fermentation* in the *Blood*.

The internal *Causes* of too high a *Fermentation*, are,

1. A *spirituous*, *fætid*, *sub-Acid* or *salt Ferment* in the *Stomach*, and this ferments too much all our *Aliments*.

2. A *natural oily*, *acid*, *fætid*, or *acrid*, *salt Temper* of the *Blood*, which is apt to ferment too much.

3. A *bitter*, *acrid Choler*, which, with the *Tartar* of the *Meat*, produces a great *Saltiness* of the *Blood*.

4. A *frequent* and *impetuous Circulation* of the *Blood*, which raises the *Digestion* of it, which

which happens often in Summer, and to Young Men, by *Passions* or *Surfeits*.

5. *Fætid Humours* retained ferment the *Humours*; as, the *salt Serum*, the *Semen*, the *Choler*, and many extraneous Ferments come into the *Blood* from without, as in the *Itch*, *Leprosie*, *Pox*, the Ferment of *infectious Fevers*, or the Poysons from *Mad-Animals*, or venomous Bites of them: All which have their Effects on the *Animal*, by Fermenting its *Humours*.

Such as the *Blood* and *Spirits* of *Animals* be, as to their Qualities, such is the Temper of their *Stomachic* Ferment, for that rises from the other; and any Errour committed in *Chylification* is communicated to the *Blood* and *Spirits*.

The Cure of too high a Fermentation requires,

First, That all the Evident Causes be avoided, and that we use a contrary Diet of *crude*, *acerb*, *watery*, *mucilaginous Styptics*; as *crude Vegetables*, *Bistort*, *Lettuce*, *Spinage*, *Cucumbers*, *Sorrel*, *Melons*; Fruits; as *Apples*, *Plumbs*, *Cherries*, *Strawberries*, *Sloes*; the *Legumens*, as young *Peas*, *Beans*, boiled *Wheat*; and all the *farinaceous* Meats of *Oat* or *Barley Meal*, *Rice*, or *Pudding*, *Panados*.

The

The Drink ought to be *small Beer*, or *Water* two Parts, with a little *Wine*; or else the Drinking *Mead*, *Elder-Wine*, or *Wood-Drinks*, or *Water* it self, or *thin Milk*. *Milk-Meats* are very useful in this State, for we add *Milk* to fermenting *Wines* to stop their Fretting.

Secondly, All *Choleric Humours* ought to be evacuated, and the *Rancid Contents* of the *Stomach*.

I. By *Vomiting*, with *Carduus*, or *Sal Vi-
trioli*, or *Squills*.

II. By *Cholagogues*, and those,

1. *Nauseous Dock-Bitters*; as Chewing of *Rhubarb*, or its Infusion with *Manna* by *Dock-Beer*.

2. By *Aloetics*; *Elixir Proprietatis cum
Acido*.

3. By *Bitterish* and *Nauseous Pea-Tastes*; as *Sena*.

III. By the *Bitterish*, *Purging Waters*.

IV. By *Diagrydiates* mixt with *Tartar*, or some *Acid*, *Rhubarb Powder*, by *Pil. Tartareæ*.

V. By *Lenitive*, *Sweet Purgers*; as *Manna*, *El. Lenitiv*.

Thirdly, The *oily*, *bilious* or *salt* Temper of the *Ferment* and *Blood*, and its frequent Circulation, are to be corrected and checked,

I. By

1. By *Acids*; as *Spirit of Salt*, *Vinegar*, *Sulphur*, *Niter*, *Alum*, *Conserve of Roses*, *vitriolated cum Tinct. Rosar.* which coagulate the *Chyle*, the *Bile*, the *Salt Serum*, and the *oily Particles* of the *Blood*, and thereby fix them. *Bitters* are always corrected by *Acids*, so the *Bitter of Aloes*, *Coloquintida* is abated by *Spirit of Sulphur*, or *Vitriol*.

2. *Styptics* preserve the *Consistence* of the *Blood*, and hinder or cure *Fevers*; as *Plantain*, *House-Leek*, *Tormentil*, *Cinquefoil*, *Purslain*.

3. The *Mucilaginous* incrassate or thicken the *Consistence*; as *Gum Tragacanth*, and *Ichthyocolla*, *Borrage*, *Bugloss*, *Emulsions*, *Lettuce*.

4. *Watery Liquors* temper and dilute *hot Humours*; as *Mineral Waters*, *Whey*, with *Syrup of Violets*, and *cool, bitterish, slimy or acid Juices*, *Milk-Waters*, drinking *Milk* and *Water*.

5. *Bitterish, Crude Plants* deterge away the *Choler*; as the *Cichory Bitters*, as *Decoction of Cichory-Roots*, or *Dandelion* in *Whey*, with *Cream of Tartar*.

6. *Opiates* stop the *vapid Circulation* of *Blood*.

7. *Mercurial Medicines* depress the *Fermentation* and *cool Humours*, and stop *Pu-
trefaction*.

Fourthly,

Fourthly, Frequent *Bleeding* abates the Fulness of *Humours*, and checks their Fermentations, or *Fervors*, or *Ebullitions*.

Fifthly, All Evacuations suppressed ought to be renewed, and all extraneous Ferments to be corrected or evacuated.

Sixthly, Externally we may check the Ebullition of the *Blood*, by applying *Water* and *Vinegar* to the *Pulses*, *Stones*, *Forehead*, *Feet*, and in an extraordinary Case the Patient ought to be put into cold *Water*, or dipt, according to the Method communicated to me by my Ingenious Friend Dr. *Baynard*, a Member of the *College* of *Physicians*; whose Success by it in Curing such Diseases as depend on too high a Fermentation of the *Blood*, is very well known; and the Practice seems to me very Rational, if managed according to the Rules his Experience has found out.

The Diseases which chiefly affect the *Stomach* upon too high a Fermentation, are, an *Oylinefs* and *Rancidity* of its *Contents*, and a *Nidorous Ruētus*; The Causes of these are,

1. A *Salso-acid*, *spirituous* Ferment.
2. *Meats* which are half *putrid*, or *oyly*, or *rancid*, or *fat*, or *fryed* with *Fat*, and
corrosive

corrosive Vegetables; as *Garlic*, *Onyons*, or the much Use of *Tobacco*.

3. *Choleric* or *Salt Humours* mixed with the natural Ferment.

Since these *Nidorous Ructus* depend on the *Acrimony* of *Humours*, and the *Fætid Spirituosity* of the *Ferment*, and the *Putridness* of the *Meat*, they are improperly imputed to a *Crudity*; for a *Fætor* is rather a sign of a *Putrefaction*, and in no *Crudity* are the *oily, acid Spirits* so far volatilized in the *Stomach*.

The Cure of this *Nidorosity*, is,

1. By *Evacuation*, by *Vomiting* and *Purg-
ing*, as is directed.

2. By Correcting the *Oleous Temper* of the *Bile*, or *Ferment*, or *Meat*, by the *Acids* mentioned, as *Cream of Tartar*, *Juyce of Limon*, *Decoction of Tamarind*, *Spirit of Niter* dulcified, with *Spirit of Mint* or *Aniseeds*.

Or by *Salso-Acids*; as *Sal Prunellæ*.

3. By *Externals*, *Styptics*, *Aromatics*, and *Acids*; as *Quinces* and *Mint*, with *Vinegar* and *Leaven*.

By too great a Fermentation of the *Meat*, the *Lacteal Lympha*, as the *Saliva*, becomes nauseously *Sweet* and *Sharp*, and the *Ferment* of the *Stomach* of the same quality, which produces a *Nauseousness*; and
by

by its *Salso-Acid*, a *hot Cholic*. The *Mucus* of the *Larynx* and *Aspera Arteria* becomes *Sharp*, or *Salso-Acid*, and produces *Coughs*.

The *Milk* in the *Breasts* becomes *bitter*, *rank*, *oily*, *salt*, *thick*, which gives *Gripes* to *Children*, and *Vomits* them.

The *Semen* becomes *salt* and *stimulating*; as in *Furor Uterinus*.

The *Succus Nervosus* *salt*, or more *lucid* than ordinary; as in *Deliriums*, and more *Oily* and *Fætid*.

The *Salt Lympha* becomes more *Salt*; as in the *Gout*, *Stone*, *Hæmorrhagies*, and the *Scurvy*.

Those are most disposed to this State of *Blood*, who are of *Choleric*, *hot Constitutions*; for the same kind of *Diet* produces much *Choler*, which over-ferments the *Blood*; as all *acid*, *bitter*, *salt*, *aromatic* and *sweet* things, and all *hot Meats* and *Medicines* injure them, but *cool* ones, and those that are *Serous*, refresh them. The *Choleric* have their *Senses* and *Actions* of the *Mind*, and *Motions* of the *Body*, very *quick* and *ready*, their *Passions* of *Anger* and *Revenge* *violent*, and their *Dreams* *cruel*, and *little Sleep*, and their *Pulse* *full* and *hard*, and all these *Symptoms* depend on *Fiery* or *Choleric*, *Hot Spirits*.

The

The Abundance of *Choler* abates the *Appetite*, creates *Thirst*, and requires a cool-*Diet*, and disposes to *Fevers*, and *Phrensies*.

The *Erysipelas*, and *Choleric Vomitings*, and *Loosenesses*, and a *bitterness* in the *Mouth*, the *Urin* is *thin*, *yellowish*, or *flame Coloured*, or *red*.

The *Habit* of the *Body* is generally *lean*, and the *Colour* of the *Face* *yellowish*, and the *Hair* *yellow* or *black*.

By these Signs mentioned we may know when *Humours* are too high fermented, and *Choler* produced: but that the Nature of *Choler* may be more fully explained, and the Cure of its *Bitterness* by Coagulations, I will annex the ensuing Discourse about its Nature, Use, and Colours, and its Coagulations by *Acids*.

Choler may be compared to the *Juyces* of *bitter Plants*, for their *Bitterness* depends on an *Oyl* and *Acid*, mixed with much *Earth*, digested into a particular State, and by the Mixture of these Principles they acquire the Texture of Particles, necessary to a *bitter Taste*.

There is a good quantity of *Water* mixt with *Choler*, whose Superfluity is drawn off by the *Lymphatics*, that the *Choler* might be left more *ropy*. Some of the *bitterness* goes off with the *Lympha*, which gives a
bitterness

bitterness to it, if it be tasted in the Vessels, which return the *Lympha* from the *Vesica Biliaria*; and because this meets the *Chyle* in the common Receptacle, it certainly helps there its Sanguification, which the *Ancients*, by Mistake, imputed to the *Liver* its self, but that is more rationally ascribed to *Choler*, which is produced by the *Liver*.

The *Principles* of *Choler* are easily mixed with watery *Liquors*, and diluted by them. When it is too *slimy* or *hot*, we use much *Whey* or *Water* for that end to dilute it.

A great quantity of an *Earthy Principle* appears in *Choler*, because it is apt to breed *Stones*, and it leaves a great *Thickness* or *Crassamentum* upon Evaporation.

The *Oylinefs* in *Choler* appears in its *ropy Sliminess*, and for this reason it serves *Painters* to mix (like *Oyl*) with their Colours; and it is used for the Washing of Cloaths, because of its *Oyly Parts*. I have observed in ^{full Cows} ~~Hamsters~~ a small quantity of *Gall* in the bladder of *Gall*, the *Oleous Parts* of *Chyle* being spent most on the *Fat*, and not digested so high, as to produce *Choler*; and the reason that *fat* Constitutions are more cool than the *lean*, is, because, they breed less *Choler*.

Spirit of *Harts-Horn* put into the yellow *Choler* of a *Hog* precipitated it a little, from

from whence, I supposed some *Acid* might be in it.

There is naturally no *Volatile Salt* in *Choler*, but that is made by Fermentation of it, or by a strong Fire in Distillation. This ought much to discourage *Physicians* from confiding in *Chymistry* for the Explaining the Nature and Principles of *Animal Humours*, since it produces so much of a *Volatile Salt*, which is not naturally in *Choler*; and I think I have a much clearer and certain Notion of *Choler*, and its Use, from its *Sensible Qualities*, especially its Taste.

The *Green Choler* of a Cow tasted sweet, bitter, sub-acrid, or a little pungent, and it turned Syrup of *Violets green*.

The *yellow Choler* of a Hog had the same, but a stronger Taste, and it turned Syrup of *Violets green*.

The *florid* Part of the *Blood* is that which the Ancient Authors meant by the *Bilis Alimentaria*, or *natural Choler*; for the *florid* Part being of an Oily and *Acid* Nature, it is the immediate Matter of *Choler*; but the great *Slime* observable in *Choler*, is sent to the *Liver* by the *Spleen*.

All *Choleric* Persons have very *florid* *Bloods*, and that very hot, which both depend on the oily, acid, red Part of the *Blood*.

H

Choler

Choler is easily mixed with *Blood*, if they be stirred together, and so gives a very *florid* Colour to it, which shews a great Agreement betwixt the *Red* and *Yellow* in *Animal Humours*.

The change of the *red*, oily *Acid* in *Blood*, to a *yellow* Colour in *Choler*, is from a further Digestion of the same *Humour*, or a Mixture of a *Spleen Acid* with it; so *Brimstone*, in its Natural State, is mixed with much *Acid* and *Earth*, and is of a *greenish* Colour; but when sublimed, it has less *Earth* and *Acid*, and then is of a *yellow* Colour; but if the *yellow* ~~Humours~~^{Humour} be melted with Salt of *Tartar*, the *Hepar Sulphuris* is *red*, and the *Balsam* made of it, or its *Tincture*; but if a *Lixivium* be made of the *Hepar*, and it be precipitated by a good quantity of *Acid*, it becomes *Milky*, as in *Lac Sulphuris*.

The *Oyl* in *Animal Humours* gives us as great a Variety of Colour, according to its different kinds or quantities of *Acid* mixed with it, as *Sulphur* does in the Experiments mentioned, or in the Variety of the Colours of Metals, which depends on their different Digestions, or Mixtures of their *Sulphur* with a *Mineral Acidity*.

I. The *Oyl* or *Butter* in *Chyle* gives a *Milky* Colour, by the Mixture of it with a
Tartar

Tartar Acid, and resembles the Colour and Mixture of *Lae Sulphuris*.

II. The Oyl gives a *florid* Colour to the *Blood*, by its Mixture with the volatilized *Vitriolic Acidity* and *Saltiness* there, and this resembles the *Hepar Sulphuris* in Colour and Mixture of less *Acidity*, with a *Saltiness*.

III. Tho Oyl in the *Choler* is of different Colours, according to the difference of its *Spleen Acid* mixt with it, or the *Acid* of the Meats digested in the *Stomach*.

I. It is *Green* in *Sheep*, *Hens*, *Rabbits*, *Cows*, *Dear*, who feed on *Herbs*, which supply a great quantity of *crude* or *acerb Tartar* to the *Animal Humours*. If we drop *Spirit of Nitre* into *yellow Choler*, it turns it *Greenish*, and our Excrements look *Green* from *Chalybeate Water*, in which there is the *Acid* of *Sulphur* joyned with a *Stypticity*. All our *Green Vomits* in Women are from a Mixture of *Yellow Choler*, and an *Acid* in the *Stomach*; they taste and smell *Sowre*: They are cured by the grossest *Steel* in *Hysterical* Women, or *Testaceous Medicines* in Children, when they are griped by a *Green Humour*; from which Observations it appears, that the *Bilis Porracea* is from a *crude Tartar Acid* mixed with *Yellow Choler* in the *Stomachs* of the *Hysterical*,

or *Hypochondriacal*, or Children *Griped* by that *Humour*; and the *Green Choler* of the *Animals* above-mentioned is, from the *red florid* Parts of the *Blood*, too much fixed by a *crude Acid*, and much of *Earth*, which those *Animals* have from their Food of *crude Grass*.

These *Animals* have a milder Heat than those who have *Yellow Choler*; the lowness of their Fermentation may be discerned by a less offensive *Fætor* of their *Bodies*, and the watery *Paleness* of their *Urins* in a natural State: From hence we may observe, that all *Green Humours* are signs of *Indigestion*, and a *crude Acidity*, and they are to be cured as the *Tartar Acid* of *Chyle*, already described.

2. The *Paleness* of *Choler* is from a great *Serosity* mixed with it; and this is a sign of a great *Weakness* of *Digestion*, and a *Serous Cacochymia*.

3. The *Sliminess* and *Sweetness* of *Choler* is from a weak, pituitous *Blood*, and a sign of it, and belongs to *Fat Constitutions*.

IV. In *Animals*, whose *Heat* is very strong, and their *Fermentation* more violent, and whose *Bodies* have a stronger *Fætor*, as *Men*, *Pigs*, *Cats*, *Dogs*, &c. the *Choler* is of a *Yellow Colour*.

V. The

V. The *Bilis Vitellina* differs from the *Yellow Choler* only in *Consistence* and *Acrimony*; it is compared to the *Tolks* of *Eggs*, and is a sign of a *viscid* State of *Blood*.

VI. The *Blue Choler* is commonly called *Isatodes*, like the Colour *Woad* gives.

This I once observed in a Young *Hysterical* Woman, who Vomited *Blue* after the Death of her Father, and upon a *Surfeit*.

I observed the same *Blue* was Vomited by a Young Person, when all his *Stools* were *Black*; and this *Blue Choler* must be attributed to the *Vitriolic Acidity* of the *Spleen*, or such a State of *Acid* mixed in the *Stomach* with *Yellow Choler*, and this Colour of preternatural *Choler* the *Ancients* attributed to too much *Aduſtion* of *Choler*, or *Torrefaction*, which brings it near to the Nature of *Atra Bilis*, and this *Choler* ought to be esteemed the lowest State of the *Atra Bilis*.

VII. *Choler* of a deep *Orange* Colour, is what the *Ancients* called *Æruginosa Bilis*, and is the Effect of a *Cholera*, when the *Yellow Choler* is altered by the *Splenetic Acid*, and made *Corrosive*, as the *Ancients* describe it, but it is of no considerable Taste, as those that Vomited it described it to me; it is of a *Brown* and *Yellow* Mix-

ture, as appears by the Linen stained by it. This Vomited plentifully often proves Fatal.

The Cure of this ought to be managed, as in the *Cholera*, by *Vomiting* plentifully at first, by *Glysters* and *Laudanum*, but not *Purging*. It seems very probable to me, that it is the Effect of an intermitting *Fever*, and a Symptom of it, and requires the Use of the *Cortex*, with *Laudanum*, after Evacuation, with *Aqua Pulli*, or *Posset-Drink*, and *Glysters*, and *Bleeding*, if the *Pulse* will bear it. This *Choler* is a sign of a *putrid* State of *Humours*.

VIII. *Choler* of a *Flaming* Colour seems to be of a high State of Digestion; so I have observed in a *Fitchet* which stinks much, a *Choler* of a *Red, Flaming* Colour, and the higher or hotter the *Choler* is, the less *Acerb Acidity* there is in the *Body*, and the higher its Colour is, the more the *Body* stinks.

In *River-Fish*, the *Choler* is of a *Citrine* Colour, which is only a *thin Yellow*, and is produced by a lower State of Digestion than the *Yellow Choler* of *Quadrupeds*. *Yellow Choler* becomes *Citrine* by diluting it, as it is probable that of *Fish* is much more diluted than the other. I tasted the *Choler* of a *Jack*, which was *Sweet, Bitter, Sub-Acid, Slimy,*

Slimy, and of a Colour like Oyl of *Amber*. *Fish Choler* bites the Tongue, but is less *Bitter* than other *Choler*, because there is less *Fat* in *Fish*, and therefore the *Choler* is less *Oleous* or *Bitter*.

The *Acrimony* or *Pungency* in *Choler*, is like that of *Acrid Plants*, or *Insects*, without a *Salt Taste*, and it seems an Oily *Acid*, which, like that in *Soot*, is in a near Disposition to be made a *Salt*, by Fire or Fermentation.

The Colour of the Oyls amongst *Vegetables* very much explains their several Digestions.

Their *Paleness* is a Sign of a *Serosity* in Oyl of *Walnuts*, and *Milky Juices* are *Turpentine*s dissolved in *Water*.

Their *Sliminess* of a *Crudity* in Oyl of *Linseed*.

Their *Greenness* of an *Acidity* in Oyls of *Olives*.

The *Sweetness* of Oyls shews the middle State they are in betwixt a high and low Digestion.

To the *Yellowness* of *Turpentine* is joyned its *Acrid Taste*, and *Bitterness*.

The *Blue Turpentine*s are higher digested in *Flos Solis*, and *Hypericum*.

The *Resins*, and thick *Turpentine*s, resemble the Consistence of the thick *Vitelline Choler*.

The *Citrine Balsams*; as that of *Mecha*, and the *Black* ones, as that of *Peru*, represent the State of *Black* or *Citrine Cholera*.

There are *Fætid Balsams* and *Gums* which may answer the State of putrefied *Fætid Cholera*, which is in Stools of a putrefied Smell.

As to the *Atra Bilis*, I will reserve the Discourse of it to the Chapter of *Vitriolic Acidity*.

Cholera may be coagulated by divers *Acids*, like the *Serum* of the *Blood*; but *Cholera* most easily.

I put to the *Yellow Cholera* of a *Hog*, which was about 3ij. a small quantity of *Spirit* of *Vitriol*, by which it turned into *hard* and *yellow Curds*, the *Serum* swimming on the top. I have observed such *hard Concretions* in the Stools of some *Icteric* Persons, which proceed from such Coagulations by an *Acid*.

Spirit of *Salt* coagulated it less, and the Coagulations were of a paler Colour.

Spirit of *Niter* coagulated the *Cholera* into *Green Curds*, which were very hard, and the *Serum* was very clear above the Coagulations.

The *Oyl* of *Tartar* nitrated coagulated *Cholera* by its *nitrous Acid*.

The

The *Green Choler* of a *Chicken* was made by *Spiritus Nitri Dulcis*, of a more clear *Green Colour*.

Vitriolate Tartar coagulated *Green Choler*, and the *Coagulum* looked *Yellowish*, as the *Green Choler* always does by the Mixture of the *White Cremor* in the *Guts*, which is *Sub-Acid*.

Alum coagulated the *Green Choler* into *Yellow Curds*, but they looked *White* by adding a *fixed Salt*; so *Alum Waters* precipitate a *White Colour* by *Spirit of Sal Armoniac*.

Neither *Sal Armoniac*, nor common *Salt*, nor *Sal Chalybis*, coagulate *Choler*.

Salt of Wormwood made no Effervescence with the *Green Choler*; whence I inferr, that there is no loose *Acid* in it to produce its *Greenness*.

Chymical Oyl of *Wormwood* swam upon *Choler*, whence it is evident, that *Choler* is not wholly *Oyl*.

Green Choler looked *Yellow* by a Mixture of burnt *Harts-Horn*, which may abate or alter the *Acid* of the *Green*.

It is evident, that *Choler* is not purely a *Stercus Liquidum*; for then it ought not to have been emptyed into the *Guts* so near to the *Stomach*, for its *Gall-Bladder* being there inserted, every Motion of the *Guts*
or

or *Stomach*, near its Insertion, must evacuate some Part of it, to mix with the digested Meat descending from the *Stomach*.

The first Use I shall ascribe to *Choler*, is the correcting the *Acidities* of the *Meat* digested in the *Stomach*, for that might other ways *Gripe* the *Belly*, or coagulate the *Chyle*, or thicken the *Blood*.

An *Acidity* is produced always by artificial Fermentations, and the same is evident in the *Contents* of the *Stomach* of *Pigs*, *Rabbits*, *Sheep*, to any ones Smell. The *Contents* of the *Carnivorous* coagulate *Milk*; and I found that *Bread* digested in the *Stomach* of a *Dog* coagulated *Milk*.

The *Bitterness* and *Acrimony* of the *Choler* corrects this *Acidity* of the digested *Meat*, and, by this means, volatilizes the *Chyle*, because nothing fixes the *Blood* and *Chyle* so much as *Acids* do, especially the *Oyls* and *Salts* in *Animal Humours* are coagulated by them.

Thus *Sulphur* is opened by *fixed Salts*, and *Spirit of Wine* by *Salt of Tartar* is rectified.

II. The Second Use of *Choler* is to prevent too great a Fermentation, or a perfect Putrefaction of our *Meats*; so *Hops* and *Wormwood* prevent the decay as well as souring of our *Liquors*.

Myrrh,

Myrrh, and other *Bitter Gums*, preserve *Dead Carcases* from Putrefaction. Other *Bitters*, as the *Cortex*, *Gentian*, *Centaury*, and *Chamædrys*, by their *Bitterness*, stop the Fermentation of *Fevers*, and hinder the Putrefaction of *Humours*, and the Gangreen of the *Solid Parts*; from hence we may infer, that *Choler* may prevent the corruptive Fermentation of our *Meat* and *Humours*, as well as correct their *Acidities*.

III. The Coagulation of the *Choler* by the *Acidity* of the *digested Meat*, helps the *Oyl* of the *Meat* to separate from the *Fæces*, which are of an *Earthy Nature*, to which it was united by an *Acidity*, and the *thick nutritious Parts* of the *Meat* are easily extracted from the rest by the *liquid Juices* of the *Stomach*, and both the *Oily* and *Nutritious Parts* being dissolved in a *Liquor* constitute the *white Milky Liquor*, which is our *Chyle*.

I took some dry Reliques of *Peas*, digested in the *Stomach* of a *Hog*, who was fed twenty four Hours before he was Killed with *Peas* only, and *Water*, which smelt like boiled *Gooseberries*, pleasantly *Acid*: I put some *Water* to the digested *Peas*, and made it *Milky*, by Addition of some of the *Hog's Gall*. To the *Liquor* squeezed out of the *Contents* of the *Stomach*, I put some *Gall*,
which

which was coagulated by it; from whence it appears, that *Choler* is naturally coagulated by the *Acid* Reliques of the *Stomach*.

I put some *Spirit* of *Sal Armoniac* to *Gall* coagulated by *Spirit* of *Vitriol*, and it produced a *Milky* Colour; from both these Experiments I did collect, that the Coagulation of *Choler* by the *Acid* of the digested *Meat*, together with the *Oily* Parts of the *Meat*, produce the *White* Colour of our *Chyle*; so in Preparation of *Lac Sulphuris*, the *Milky* Colour follows the Precipitation of the *Tartar* by an *Acid Spirit*, and the *Oily* Parts of the *Sulphur* give a *Milky* Colour; *Oily* or *Resinous Liquors*, as *Tincture* of *Benjamin*, *Turpentine* it self, being diluted with *Water*, become *Milky*. *Emulsions* are *Milky* from the *Oylinefs* of their *Seeds*. The best *Oyls* thickened by cold; and the *Fat* of *Animals* have a *White* Colour; and *Milk* it self has its *Whiteness* from the *Caseous Fibers*, and its *Buttery Oyl*.

IV. The *Choler* has its grosser Parts separated by the *Acidity* of the digested *Meat*, and that gives Colour and Consistence to the *Excrements*, and the *Choler* abounding with much *Slime*, as appears by its *Ropyness* that inviscates the Gross indigested Parts of the *Alimentary Mass*, whereby the *Chyle* (like *Liquor* clarified by the *White* of *Eggs*) becomes

becomes more pure from the Sediment of *Choler*, and the indigested Parts of the *Meat*, and so only consists of a *thin, slimy, nutritious Juyce*, with *Volatile, Spirituous, Oily* Parts, which can only pass the *Canals* of the *Lacteals*.

V. The Fifth Use of *Choler*, is to help Sanguification, and the Production of an *Animal Salt*, of which I will discourse in the Chapter of *Saltiness*.

I mixed the *Bitter Decoction*, *sine senâ*, with *volatile* and *fixed Salts*, and these abated its *Bitterness*, which may intimate the Use of them in some *Choleric Cases*. *Cream of Tartar* and *Spirit of Sulphur* more evidently destroyed the *Bitterness* of it. *Common Salt* and *Spirit of Salt* seemed rather to increase than destroy the *Bitterness* of the Decoction. *Mercurius dulcis* made it *Muddy*, but little altered it: the same effect probably those Medicines will have on *Bitter Choler*.

C H A P. X.

*Of the Hot Scurvy, or Oyly,
Vitriolic, Rancid State of
the Blood.*

THAT *Dyscrasie* of the *Blood*, where-
in the *Oyly* and *Acid Particles* are
too highly exalted, is commonly
called the *Scurvy*, which is divided into the
hot or *cold Scurvies*, according to the various
Constitutions of *Blood* it falls into, for
where the *Oyl* is more abundant in the *Blood*
than the *Acid*, it produces the *hot Scurvy*,
the Signs of which are, the high Colour
of the *Urin*, *red Spots* in the *Skin*, from the
coagulated or putrid *Blood* fixing there in
its Circulation, the *Gums* are *Bloody*, they
are subject to *Fevers*, *Dysenteries*, *Choleric*
Diarrhæa's, *Night-Sweats*, and *Consumptions*;
these Symptoms are produced by the *rancid*
or *scorbutic Bloods*; but in the *nervous Li-*
quor, the following Symptoms, the *Running*
Gout,

Gout, or Rheumatism in the Nerves, Convulsions, Palsies, Apoplexies, hot Cholics, and Asthma, and Crackling of the Bones. Since the *Scurvy* is cured by *Acid Fruits*, and *crude Plants* in *Seamen*, who have long lived on a *Salt Diet*; I may hence, as well as from the mentioned Symptoms, observe, that the *Scurvy* depends on too high a Fermentation of the *Blood*.

The Causes which produce the *Oily, Acid Temper* of the *Blood*, are those evident Causes which excite an Ebullition, or Effervescence in it, as in all hot Diet of *Wines, strong Drinks, and Salt Meats, Sea Air, and Fish*, which ~~soon~~ putrefie.

2. The *Passion* of the *Mind*, and *Studies*, and a *Sedentary Life*, or *Suppression* of *Evacuations*.

3. The *Scurvy* is *Hereditary*, or *Contagious*, or succeeds other Diseases; as *Fevers, Rheumatisms, Melancholy, Agues*, especially the *Quartan*.

I. The Cure consists in Evacuating the *hot, salt, bitter, acrid, and vitriolic or viscid Humours*, by the *Vomits* and *Purgers* mentioned in the Cure of too high a Fermentation, and frequent *Bleeding*.

II. By Evacuating the *Salt Serum* by gentle *Sweats*, as will be hereafter mentioned, or a Diet-Drink of *Sarsa* and *China*,
or

of each half a Pound, *Harts-Horn* and *Ivory Shavings*, of each one Ounce, boil all in eight Gallons to six, and add *Juyces* of *Water-Cresses*, *Brooklime*, of each two Pints, of *Gill* and *Liver-wort*, of each one Pint, six *Nutmegs* sliced, put all into six Gallons of *Ale*, drink three Draughts in a Day of it.

III. The *Salt Serum* may be evacuated by *Urin*.

By *Terebinthinales*; as tops of *Pine* in all our *Ale*.

IV. The *Oyl Acid Fætor* of the *Blood*, and its high Fermentation, is to be corrected, By,

1. *Acids*; as *Wood-Sorrel*, *Juyces* of *Oranges* and *Lemons* mixt with the cooler *Antiscorbutic Juyces*, *Conserve* of *Hips*, *Wood-Sorrel*.

2. The *Mucilaginous crude Juyces* of some *Legumens* are used; as *Juyce* of *Fitches* ʒij . in *White-Wine*, or *Juyce* of *Fumitory*, or *Green Peas*, or *Green Corn* distilled.

3. Other cooling *Mucilaginous Plants*, or *Animal Parts*, are used to cool the *Blood*, and dilute it; as *Juyce* of *Borrage*, *Bugloss*, *Barley Water*, *Emulsions*, drinking *Milk* and *Water*, *Antiscorbutic Milk Waters*, *Mineral Waters*, or *Fountain Water*, or *Water* and *Wine*, *Lettuce Water*, with *Sal Prunell.* and *Syrup* of *Lemons*.

4. The

4. The *Acerbs* supply their quantity of ^{the} cruder *Acids* wanting in the *Humours*; as *Juyces* of *Apples*, *Grapes*, the *Sorrels*, *House-Leek*, the *Juyce* of spotted *Arsesmart*, or *House-Leek* in *bilious Diarrhæa's*. *Coral* prepared with *Juyce* of *Limon*. *Purslain Water* with *Sal Prunell*.

These *Styptics*, *Acerbs*, stop the hot Fermentation of *Humours*; as *Plantane* boiled in *Broths*, and *Ribwort Plantane*.

5. *Austere Styptics* do the same, as *Bark* of *Tamarisk*, *Ash*, the *Cortex*.

6. *Sweet Styptics* of the *Fern Class*; as *Polypody*, *Ceterach*, *Maiden Hair* do the same.

V. The *Coagulations* by the *Scorbutic Acidity* may be dissolved,

1. By the watery *Antiscorbutic Acrids*; as *Juyces* of *Brooklime*, and its *Conserve*, and *Scurvy-Grass* and *Water-Cresses* may be put into *Milk* with the *Juyce* of *Orange* and *White-Wine*, and that to turn into *Posseta Drink*.

Spirit of *Scurvy-Grass* and *Sal Armoniac* may be given in *Milk*, or the *Juyce* of *Scurvy-Grass* may be so used. R. *Conserv. Beccabungæ*, *Rad. Cich. Lujulæ*, an. ʒij. *Ras. Eboni Pulv.* ʒiij. *Sal Prunell. Diatrion, Santal.* an. ʒij. cum *Syr. Lujulæ. F. Elect.*

2. By *Vitriolic Chalybeates*; as *Sal Vitrioli* dissolved in *Antiscorbutic Milk Waters*, or *Willis's Steel* so dissolved, or *Mineral Waters Chalybeate*, *Steel* prepared with *Juyce* of *Apples*, or *Wood-Sorrel*, or *Oranges*, and a *Tincture* may be extracted with *Spirit* of *Scurvy-Grass*, *Tartar Chalybeate*; as *Cremor Tartari* $\mathfrak{D}\text{ij}$. *Sal Prunell.* $\mathfrak{D}\text{i}$. *Vitriol. Martis* gr. iij . *Capiat cum Fuscis alterantibus*.

3. By mixed *Salts*; as *Sal Armoniac. Arcanum duplicat. Vitriolat. Tartar. Nitrous Acids*; as *Sal Prunell.* or *Mixture* of different *Salts*; as *Cream of Tartar*, and *Salt*; *Spirit* of *Salt*, and *Spirit* of *Scurvy-Grass* mixt.

4. By *Testaceous Medicines*; as *Crabs Eyes*.

VI. The *Choler* must be cleansed,

1. By *Cichoraceous Bitters*; as *Cichory*, *Dandelion Roots*.

2. By *Dock Bitters* and *Sorrel Roots* in *Beer*, or *claresfied Whey*.

3. By *Chewing Rhubarb*, and *Purging Waters*, and the *Chalybeate*.

4. It must be diluted by *Milk* and *Water*, by *Avoiding fermented strong Liquors*, and all *hot Diet*.

C H A P. XI.

Of the Viscidity of the Serum, or Inspissation of the Chyle new mixed with it in the Sizie, Rheumatic, or Inflamed Bloods.

THERE is a Natural *Slimy Viscidity* in all the *Lacteal Lympha's*, and *Milky Humours* of *Animals*, and this is like dissolved *watery Gums* in its Natural State; but beside this *Viscidty*, there is another naturally in the *Cake of Blood*, which makes it congeal and stiff when cold: this natural *Viscidty* is altered by too high a Fermentation of *Humours*, and becomes like *Inspissate Gums*, which is the *Gummy Viscidity*, or *Gelatinous*, like *Jelly Broths*.

I. The *Lympha Lactea*, such as the *Spittle*, becomes of a *Gummy Consistence*, and covers the *Tongue* with a *white Skin*, and

all the *Phlegm* from the *Salivatory Glands* is *Viscous*.

2. The *Mucus* of the *Aspera Arteria* is *Viscid*, and is formed into *Globuli*, such as the *Grando Pulmonum*: This *Mucus* is also thickened by *Stagnation*, during which, the Heat of the *Body* dries it; or the *Air* by its Cold, or *Nitrous Particles* thickens it; or the *Nutrient* of the *Nervous Membranes* is deposited into the *Vesiculæ*, being depraved or hindered in its Assimilation.

The *Sub-acid Mucus* of the *Stomach* and *Guts* is made more *Viscid* by *Fevers*, or *hot Diet*, and this lines the insides of the *Stomach* with a *Pituitous Saburra*, which hinders the *Sense* of the *Appetite*.

4. The *Lymphatic Vehicle* of the *Spirits* is made more *Viscid* in the *Palsie*, *Apoplexy*, and *Sleepy Distempers*.

5. The *Humours* of the *Eyes* are sometimes very *Viscid*, and reflect the *Light* by flying about in the *Eye*, like *Motes* in the *Sun*, and the *Thickness* of the watery *Humour* is a *Cataract*, but that of the *Crystalline* produces a *Glaucoma*.

6. The *Thickness* of the *Chyle* produces *Obstructions* in the *Lacteals*, and that in the *Breast Inflammations*.

By the *Thickness* of the *Lacteal Lympha's* *Scrophulous Tumours* are produced in all the

the *Conglomerate Glands*, or at least *Catarrhs*.

The *Seminal Lympha* of the *Vagina* or *Testicles* being too *Viscid*, may produce *Sterility*.

This *Viscid*ity of the *Chyle*, and its *Lympha's*, may be called the *Gummos* *Viscid*ity, which is produced by *Thickning* their *Natural Mucilage*, for a *watery Gum* differs only from a *Mucilage* by its *Inspissation*; for the *Mucilages* of *Plants* may be boiled into a *Gummy*, *Tenaceous* or *Emplastic Consistence*, and the *White* of an *Egg* grows hard by the *Heat* of the *Fire*.

There is another *Species* of *Viscid*ity proper to the *Serous Lympha*, when it is inspissate by *Heat*, or congeals by *Cold*, or coagulates by an *Acid*. *Broths* long boiled become *Viscid Jellies*, and they melt with the *Heat*, because of the *Oyliness* mixed with them. *Turpentine*s and *Oyls* leave a *Colophony* upon the *Separation* of their *thinner Oyl*; and such a sticking gluey Substance is made by the *Oyl* of *Harts-Horn*, when the *thinner Oyl* is distilled off from it.

The *Serum* of the *Blood* inspissates, as it does in a *Spoon* at the *Fire*, by long *Fevers*, and it produces *Tumours*, and *Obstructions* of the *Parts*, and *Rheumatic Pains*,

and *Pustules* in the *Skin*. This *Viscid*ity of the *Serum* makes the *Urin* to have *thick Contents* ; as in *Rheumatisms*, and all *Inflammations*, *Catarrhs*, *Fevers*. It produces *Pains* by stagnating in the *Lymphatics*, and by being stopt out of its *Glands*.

The *Blood* it self becomes of a *viscid Consistence*, and produces *Polypous Concretions*, and *Palpitations*, and *sudden Syncopes*. The *viscid Blood* stops the *Flux* of the *Menses*.

The *Consistence* of the *Choler* is thickened by too hot a *Diet*, which thickens its *ropy Slime*, and produces the *Faundice*.

The *Slimy Lympha* of the *Spleen*, thickened by too high a *Fermentation*, produces *Obstructions* in the *Spleen*, or this is thickened by being coagulated by its own innate *Vitriolic Acidity*, or by *Stagnation* of the *Slimy Humour*, or *Transmission* of *Viscid Humours* there after *Quartans*. The *ropy Vehicle* of the *Bile* may be coagulated by the *Vitriolic Acid* of the *Spleen*, and produce the *Atra Bilis*.

The *Salso-acid* Temper of the *Blood* may coagulate the *new Chyle* which comes into it, and so produce all the *Inflammations*, *Pains*, *Tumours*, *sudden Death*, *Suffocations* in *Catarrhs*.

The evident *Causes* of the *Gummos* and *Gelatinous Viscidities*, are,

1. Too

1. Too much external Heat of *Air*, *Cloths*, *Baths*, *Fire* which inspissate by Evaporating the watery *Vehicle* of the *Casuous Parts* of the *Serum* and *Lympha's*.

2. Too much *Cold* thickens *Liquors*, which, by *Constriction* or *Compression*, stops the Motion of the *Active Particles*, which cause their *Fluidity*, and their *Viscid Particles* cohere like *Oyls* thickned by *Cold*, or the *Blood* thickned by the cold *Air*, when out of the *Vein*.

3. *Acrid Meats*, or the *Aromatic Spices*, or *Vinous Liquors*, by their fiery *Particles* thicken the *Mucilaginous Humours*; so the *White* of an *Egg* is hardened by *Spirit* of *Wine*, and the *Serum* of the *Blood* in them who drink *Brandy*.

4. The thin *Serous Parts* are evaporated by too much *Sweat*, immoderate *Exercises*; by *Watchings* and *Passions* the quantity is abated; by *Diarrhæa's*, much spitting in taking *Tobacco*, or great *Fluxes* of *Urin*, by which, the *Blood* is made *grumous*, or void of *Serum*.

5. The great Use of *Viscid Meats*; as *Fish*, *Jellies*, *Mealy Vegetables*, *Rice*, *Wheat*, &c. or by *strong, thick, Viscid Ale* or *Wines*, or the much Use of *White Bread* made without *Bran*.

The internal Causes of *Viscid Humours*, are,

1. A *Rancid, hot* Fermentation of the *Meat*, so as to resemble *fryed Eggs* by their *Ructus*.

2. *Acrid Choler*, which hastens the *Digestion*, and quickens the *Sanguification*, and evacuates the *Serum* by *Urin*.

3. The *Natural, Oily* Temper of the *Blood*, which resembles the *ropy Consistence* of other *Oily Liquors*, or the *Salso-Acid* Temper which carries the *Serum* off by *Urin*, as the Medicines of that Taste, or else a preternatural Fermentation, which makes the *Blood* of the *Scorbutic* like a *Jelly*.

4. The *Blood* is often coagulated by its own *Acids* so, if, through Exercise, or hot Diet, it be rarified, and suddenly cooled with external Accidents, as sitting in a cool Place, or cold Air, the *Serum* of the *Blood*, or the new *Chyle* mixed with it, becomes a *viscid Jelly*, which stopping its Circulation in the *Glands, Membranes, and Muscles*; it produces all the *Inflammations* with Pain and Heat, so *Milk*, when *sowre*, often coagulates by being boiled, and *Milk* injected into a *Vein* is presently coagulated.

5. The *Vitriol Acid* of the *Spleen* coagulating the *Lympha Lactea* produces the *Scrophulous Tumours*, or the *Cancerous*; by coagulating the *Serum* it produces the *Arthritis*

thritis Vaga Scorbutica, and this is properly the *Caseous Viscidity* which is in all *Animal Humours*, and may be precipitated from them by mixing an *Acid* to precipitate it, and coagulate it.

6. A *Putredinous Ferment* coagulates all *Humours*, as *Milk* with *Rennet* is turned; the *Plague Infection* coagulates the *Blood*, and the *Exanthemata* are its coagulated and mortified Parts; the *Serous Lympha*, by the venomous Ferment of the *Itch* and *Pox*, is turned into *putrid Matter*; and the Bite of a *Viper* coagulates the *Blood*, and precipitates its *Viscid Parts* from the rest of the *Mass*.

The Cure of the *Viscidity* requires,

I. A thin, watery cool Diet, and Abstinence from fermented Liquors; as *Whey*, *Milk* and *Water*, *Wine* and *Water*.

II. The hot Contents and Ferment of the *Stomach*, and *Acrid Choler*, must be evacuated by the *Vomits* and *Purgers* described in the Cure of *too high a Fermentation*.

But it must be observed, That *Purges* in all *Inflammations* are improper in the beginning, but very profitable after large *Phlebotomies*; when the *Viscid* has had time to putrefie and digest, it will easily pass the *Intestinal Glands*, which it cannot do at first;

first; and, for the same reason, *Diuretics* nor *Sudorifics* do no Service till the latter end, that is, after fourteen days, when the *Viscid* is putrefied; and this is agreeable to Experience in *Rheumatisms*.

III. Frequent *Bleeding* carries off much of the *Viscid Serum*, and Vomiting that of the *Viscid Slime* in the *Stomach*, as well as the *Choler*.

IV. The *Acrid Ferment*, and *sharp Choler*, and the great *Fervour* of *Humours*, must be corrected by the *Tastes* mentioned in the Cure of *too high a Fermentation*.

V. The preternatural *Scorbutic Fermentations* must be cured as the *hot Scurvy*, or prevented.

VI. All *Putredinous Ferments* are to be avoided, as well as sudden taking cold, or drinking cool *Liquors*.

VII. The *Viscid*ity of *Humours* must be diluted by watery *Liquors*; as *Asses Milk*, *Whey*, *Mineral Waters*, and *Milk Waters*, which may supply the *thin Serum* which is evaporated.

VIII. The *Viscid*ity must be attenuated, and incised, and gently putrefied, by which it is made more *fluid*, so that it may pass off by *Stool*, or *Urin*, or *Sweats*; so the *viscid Spittle* in the *Pipes* of the *Lungs* is at first *glutinous*, and sticks too fast to be
Coughed

Coughed up; but after some Days it becomes *purulent*, and more *fluid*. In *Rheumatisms* the *Siziness* putrefies after some time, and passes off *thick Contents* in the *Urin*, or *glutinous Sweats*: The *Salso-Acids* will help its passing off; as *Sal Prunell. Vitriolate Tartar, Sal Armoniac.*

We know no Medicines which will help the Putrefying of the *Viscid*, but those which ripen *Imposthumes*, or help the ripening of the *Phlegm* in the *Lungs*, as the *sweet Slimy Roots*; and Fruits may be useful, as *Pectoral Decoctions*, and *Ptysans*, and keeping the Body in a moderate Heat, and moist thin Diet.

The *watery Antiscorbutics* dilute the *Viscid*, and incide it, or else are good *Diuretics*; but I learnt by the following Experiment, that no *Pungency* can incide or attenuate the *sizy Blood*.

I cut the *Skin* off the top of such *Blood*, after it was cool in the Dish, and put it into *Spirit* of *Sal Armoniac*, which could not at all dissolve it, neither do I think it possible to reduce the *White* of an *Egg* boiled, to its former *Fluidity*. It is, therefore, by *Putrefaction* alone that Nature dissolves and attenuates all our *Viscid Humours*, and that makes *Eggs* fluid.

IX. The Coagulation of the *Chyle* or *lacteal Lympha's*, or the *Serum*, must be prevented.

1. By Evacuating all *Acids* by *Vomits*, and *Aloetic Purgers*, to which *Salt of Wormwood*, *Steel*, or *Mercurial Powder*, or the *Testaceous*, are added.

2. The *Acidity* is cured by *Steel*, or *Mercurial Medicines*, or *Salts*, *Ashes of Animals* and *Vegetables*, the *Calces of Minerals*, by *petrefied Stones*, or the *testaceous Powders*.

X. The Circulation of *Viscid Humours* may be promoted by *Chalybeate Vitriols*, by *Volatile*, *Oily Salts*, or by the *Aromatic Acrids*, or *bitter Plants*. So Agitation alters the *Viscid Sliminess* of the *White* of an *Egg*.

XI. The attenuated or putrefied *Viscid* must be expelled by *Sweats*.

1. By the *Acrid Woods*, or *Volatile Salts*.

2. By *Cathartics of Mercurials*, which precipitate the *Viscidities* by their *Stypticity*, and mix with all *Animal Acids* most freely, as appears by Killing it with *Spittle*, and passes the *Lymphatics* and *Glands* most easily of any Medicine.

Or by *Cathartics*, which are *gummous*, and by that cohere with the *Viscid Slime* of *Animals*, and purge them off, as *Gum Pills*, with *Purging Rosins*.

XII.

XII. The putrid *Viscid* may be precipitated out of the *Blood* by *Styptics*, as the *Cortex*, or *Acerbs*; so *Sloes* pounded in a Mortar are put into *ropy Wines*, to precipitate their *Mucilage*, and they shake them together, and after eight Days it is clear.

Vitriol. Martis much helps the Depuration of the *Blood* after *Rheumatisms*.

CHAP.

C H A P. XII.

*Of the Saltnefs of the Blood,
and other Humours.*

1. **A**N *Animal Saltnefs* may be tasted in the *Stomach* of the *Carnivorous Animals*; but that depends on the *Taste* of their *Flesh-Meat* digested, which contains the *salt, serous* and *nutritious Juices* of another *Animal*, or else it is the natural *Taste* of the *Lympha*, which is the *Ferment* of their *Meat*, and is produced in the *Blood*, and brought thence into the *Stomach*; but this *Saltnefs* depends upon the *Nature* of our *Diet*, and is externally taken into the *Humours*, and not produced by them; but we may inquire whence those *Animals* have a *Saltnefs* of *Blood*, who feed on *Vegetables* which taste not *Salt* in the *Stomach*.

2. A *Salt* is made in the *Guts* of *Birds*, and other *granivorous Creatures*, by the
Mixture

Mixture of *Acrid Bile*, and the *Acidity* of the *Cremor*, expressed in the *Gizern*, from the *Seeds* on which they feed, and which have not acquired any *Salt Taste* in the *Stomach* by *Digestion*.

That an *Acid* makes part of a *Salt Taste*, is sufficiently evident by the *Dissolution* of *Crabs Eyes* in *Vinegar*, which produce a *Saltish Taste*.

Common *Sal Armoniac* tastes more *Salt* than either *volatile* or *fixed Alkalies*, both which probably have some *Acid* in their *Composition*, as well as that; for *Green Plants* yield more *Salt* than the *dry*; and because we observe no *Acid* in the *Distillation* of *volatile Animal Salt*, nor much *fixed* in the *Caput Mortuum*, it is probable, that the *Acid* in the *Humours* is spent in the *Composition* of the *volatile Salt*, and gives a *Salt Taste*, for an *Acid* put to a *volatile* or *fixed Salt* makes them taste more *Salt*. ʒi. of *Salt* of *Harts-Horn* will imbibe ʒij. of *Spirit* of *Salt* before the *Ebullition* ceases, and they be resolved into a *Liquor*; and from hence it appears, how much the *volatile Acrid* of *Bile*, and the *Salt* produced in the *Blood*, may imbibe from the *Acid* of digested *Meat*.

Common *Salt* yields a great deal of *Acid* upon *Distillation*; and we can meet with
nothing

nothing of a *Salt Taste* in Nature, but what is made of an *Acid* and *Earth*, or other *Salt*. The *volatile* and *fixed Salts* are made by the *Fire*, and they are most clear from *Acidities*.

We taste this *Saltiness* in the *Chyle* as soon as it comes into the *Lacteals*, and this is of a *Salso-Acid Taste*; but when it is vitiated by too great an *Acidity* of the *Meat* too high digested, or the *Acrimony* of the *Choler*, it may properly be called a *Muriatic Saltiness*.

This Natural *Saltiness* swims in the *Serous Part* of the *Chyle*, and passes with it into the *Blood*, and the *Urin* seems to be produced from this *Salso-Acid Serum*, when it has parted with the more *Caseous*, *Nutritious* Parts of the *Chyle* in the *Blood Vessels*.

That the *Choler* may help to produce the *Excrementitious* Parts of the *Urin*, as well as that of the *Stools*, seems probable, because we observe *Stones* to be bred in the *Gall Bladder*, as well as in the *Urinary Passages*, which seem to be *Choler* coagulated.

Bitters are accounted *Diuretics*, and the *Gall* does naturally pass by the *Urin* in the *Jaundice*, and usually gives a *Citrine*, or *Red*, or *Yellow Colour*, or *Black* to the *Urin*.

Choler

Choler easily dissolves in *Water*, and seems to give it a Colour like *Urin*. All mixt *Salts* resemble the Mixture of *Choler*, and the *Acid* of the *Meat*, and are *Diuretic*; as *Sal Armoniac*, *Tart. Vitriol*. *Sal Succini*, *Sal Prunellæ*. All *Acids* are *diuretic* by fixing on the *Choler*, as the *Tartar Acid* of the *Stomach* does; and *volatile Salts* mix with the *Acid* in the *Stomach*, and pass by *Urin*. The superfluous Parts of the *Chylous* Substance produce the Contents in the *Urin*, which makes it probable, that the *Salso-Acid* part of the *Chyle* produces the salt, *serous* part of the *Urin*, and that *Salso-Acid* is produced from the *Choler*.

3. There is another sort of *Saltiness* which we taste in the *Serum* of the *Blood*, and this is in a great quantity.

Those *Animals* who feed only on *Grass* and *Fruits* digest their *Meats* in their *Stomachs* only into a *volatile Acidity*, and not a *Salt Taste*; these therefore must farther digest their *Nourishment* till it come near to a *Putrefaction* before it can produce an *Urinous Salt*, for we cannot extract any *volatile Salt* out of *Vegetables* till they have been putrefied, and then they yield *Urinous Spirits*, and by putrefying *Blood*, *Urin*, or *Choler*, a plentiful *volatile Salt* is produced, separable by a gentle Heat.

The *Sanguification* of our *Aliments*, dissolved by Digestion, seems to have these several steps ; for by correcting the *Acidities* of them, they are turned into *Blood*. First, The *Choler* mixes with the *Acidity*, and turns the *Chyle White*. Next, The *salt Serum* of the *Lymphatics* mixes with the *Chyle*, and turns it *Rosy* or *Reddish*. Last of all, The *Salt* of the *Blood*, and the *Oily Parts* of the *Blood*, unite with the *Oily Acid Parts* of the *Chyle*, and the more *Serous Part* turns into *Serum*, which contains the *Caseous* and *Watery Parts*, and the *Salso-Acid Aqueous Superfluities* pass off by *Urin*.

The Natural *Tartar* in the *Chyle* mixing with the *Salt* generated in the *Blood* produces the *Armoniac Salt* of the *Blood*, which if it were purely *Volatile*, it would preserve the *Blood* from Coagulation, as *Spirit of Harts-Horn* does, and would more easily rise by Distillation, but neither of these happen ; and *Spirit of Sal Armoniac* blackens the *Blood*, which is taken from the *Vein*, if we bleed upon it ; but the natural *Salt* of the *Blood* rather makes, or at least does not hinder, the *Floridity* of the *Blood*, and therefore I call the *Salt* of the *Blood* a mixt *Armoniac Salt*, produced by a half Putrefaction, or long Resolution
of

of the Parts of our *Chyle*, in which the *Oily Acids* of the *Blood* joyn with some terrene Parts, upon the ultimate Resolution of the *Nutritious Juices*, and produce a *Salt* which has that Taste from the Mixture of an *Acid* and *Earth*, and the *Volatility* and *Pungency* depends on the *volatile Oyl* mixt with them; this smells *Urinous*, and is carried off naturally by *Sweat* and *Urin*.

By the Rise of the *Muriatic Saltiness* from the *Choler* it appears, that *bilious* States of *Humours*, by a higher Digestion, become *Saline*, or *Muriatic*, and the Signs of each Constitution differ only in degrees.

The *Pulse* is great, frequent, and hard; the *Thirst* is great, and they drink frequently; their Taste of the *Saliva* is *Salt*; the Colour of the *Urin* thin, citrine, salt or bitterish; the *Habit* of the *Body* is thin and lean; the *Heat* is sharp, and the *Stools* of a burnt Yellow Colour. Cool things agree with them, but salt and hot inflame them, and they ill bear *Fasting*.

The *Chyle* is *Salso-Acid*, and that makes the *Lacteal Lympha* of that Taste, and then produces *Thirst*, *Vomiting*, or *Gripes*, *Diarrhæa's*, or *Catarrhs*, and *Inflammations* of the *Mouth*. The *Semen* is made stimulating in the *Salacious*.

The *Nervous Juyce* being salt, produces *wandering Pains*.

The *Salt Serum* being over salt, produces the *Stone*, and *Gout*, and *Strangury*.

The *Saltnefs* of *Nurses Milk* produces *Pains* in the *Breast*, and *Gripes* in the *Children*, and *Sore Mouths*.

The *Saltnefs* of the *Nutritious Juyces* produces the *Scab*, or *Consumption* of the *Parts*; it destroys its *Natural Caseous, Nutritious Parts*, and carries them off by *Urin*.

The *Blood* is made more *thin* by being very salt, its *thick Viscid Parts* being corroded or precipitated, as in *Hæmorrhagies*; and corrodes, as in the *Menses*.

The *Choler* is made more *acrid* and *bitter*, and of a darker *Brown Colour*.

The *Juyces* of the *Spleen* become *Salso-Acid*, and less *slimy*, and less fit to separate the *Choler* from the *Blood*.

The *Tears* of the *Eyes* corrode and inflame them when over salt, and dry into a *Gumminess*.

The *Salt Saliva* corrodes the *Teeth*, and the *Gums* shrink or dry, and waste away, as in the *hot Scurvy*.

An *Atrophy* dries up the *Flesh*, as *Meat* over-salted shrinks.

The external Causes of the *Muriatic Saltnefs*, and the *Armoniac Saltnefs*, very much

much are the same, but these particularly of the *Muriatic Saltness*.

1. *Salso-Acid Aliments, Salt Fish, Salt Water, Salt Sea Air.*

2. The Evacuations of the *Acrid Choler*, and the *Spleen Acid* or *Tartar Acid* being stopt in the *Binding* of the *Belly*.

The external Causes of the *Urinous Saltness*, or the *Armoniacal*, are,

1. *Acrid, vinous, bitter and aromatic Meats.* *Fasting* makes the *Humours* more *acrid*, and *sweet Diet* becomes *bitter, acrid*, on *Digestion*.

2. A *laborious Life*, with much *Exercise*, too much addictedness to *Venery*; for the *Lympha* returning from the *Testicles* becomes *fætid*, and ferments the *Humours* more.

3. Too much *Watching, Anger, Cares*, inflame the *Spirits*.

4. The Evacuation of the *Salt Serum* by *Water* or *Sweat* being suppressed, or the *Binding* of the *Body*.

Whatsoever ferments the *Blood* too much breeds *Choler*, and that the *Animal Saltness*.

The internal Causes of *Saltness*, are,

1. The *Natural Saline Temper* of the *Blood*, which supplies a *Ferment* for the *Chyle* of the same Nature, to turn it into the like *Saltness*.

2. Too quick a Circulation of the *Blood* excites too great an Ebullition, and makes the *Choler* more *acid*, and the *Salt* more *sharp*, and in greater quantity.

3. The *acid Choler*, and *sharp Acid* of the *Spleen*, or *Tartar Acid*, which is *corrosive*, produce the *sharpest Salt*.

4. A preternatural Putrefaction in *Fevers*, or long *Effervescences*, make the *Blood* very *salt*. So a *Cancer*, *Fistula*, the *Itch*, or *Lues Venerea*, or *Consumptive Lungs*, *Kidnies*, or other *Viscera*, give a Ferment to the *Blood*, and putrefie it into a *Saltiness*.

The Cure of the *Muriatic* and *Armoniac Saltiness* requires,

I. To abstain from fermented Drinks, and to use watery Liquors; as *Milk* and *Water*, and the Decoction of the cooler *Woods*, *Wine* and *Water*, or *Water* boiled with *Coriander Seeds* and *Sugar*.

To abstain from *Salt Meats*, and those dried in *Smoak*, or *Pickles*.

To abstain from Ferments; as *old Cheese*, *Fish*.

To use slimy Meats; as *new Cheese*, *Fruits*, *Farinaceous Meats*, and *Milk Meats*, *Snails*, *Tortoises*, *Jellies*, *Cray Fishes*, *Tripes*, and the *Feet* of *Animals*, and *Young Pigs*, *Goat*, *Lamb*, *Veal*.

In short, The Diet must be *crude, watery, acerb, mucilaginous, farinaceous, sub-acid.*

The *Air dry*, and not *foggy Sea Air*.

II. The *Salt Humours* must be evacuated by the *Sennate, Rhabarbarate*, and *sweet Manna Purgers*, with *Acids* added, or the *Purging Waters*, which are *nitrous*, or *aluminous*, or *vitriolic*; these wash and cool by their *Waterishness*, and precipitate the *Salt* by their *Stypticity*.

Hydragogues, which evacuate the *Serum*, abate the *Saltiness*.

III. The *Salivation* by *Mercury* evacuates plentifully the *Salt Serum*, and *Æthyops Mineralis* and *Merc. dulcis* correct the *Saltiness* by joyning with the *salso-Acid* of the *Blood*; and all *Mercurials* depress the over-Fermentation of the *Blood* as much as *Chalybeates* exalt the low Fermentation.

IV. The *Salt Serum* is sweat off by *salso-acid* or *urinous Medicines*, and for the same end we use *Baths*, and much *Exercise*, the *Decoctions* of the *Acrid Woods*, and *Frictions*, and *Fontanels*.

V. *Diuretics* plentifully evacuate the *Salt Serum*; as all *Acid Diuretics*, and the *testaceous* and *bitter cichoraceous Plants*.

VI. The *Saltiness* of the *Blood*, and the *Ferment* of the *Stomach*, the *acrid Bile*, or *sple-
netic, sharp Acid*, or that of the *Stomach*,
must be corrected, and the frequent *Ebul-
lition, Circulation* or *Putrefaction* removed.

1. All *Acids* correct *volatile Salts* and
Oyls which are *fætid*, and all *Lixiviums* are
made more *mild* by *Acids*.

2. The *mucilaginous Temper*, the *Acrimony*
of *Salts*; as *Gum Tragacanth Powders*, *De-
coction of Snails, Althæa Roots*, and *Emulsions*.

3. The *Saltiness* may be diluted by a
watery Diet or Medicines; as *thin Broths*,
Whey, Chalybeate Waters, Milk Diet, and
distilled Milks, Watergruel.

4. *Opiates* and *Styptics* stop the Motion of
the *Blood*.

5. *Bleeding* evacuates the *Old Blood*,
which is most *salt*; and the *New Blood*,
which comes in its room, is more *fresh*, and
less *salt*; so *Broths of Flesh Meat* are *salter*
by long boiling.

6. All *Extraneous Ferments* ought to be
removed from the *Blood*; and by the *Cortex*,
or other *Antifebriles*, the *Fermentation*
must be stopped.

That the *Urin* contains an *Acidity* na-
turally in it, appears by the Correcting of
Coloquintida by it, whose *Bitterness* is made
near *insipid* by it.

The

The *Purging Quality* in the *Coloquintida* is enervated by the *Urin*, as well as its *Bitterness*. Hence it appears, how great a *Correcter* of *Choler* the *Urin* may be, and how much it may preserve the *Humours* from *Putrefaction*, as it preserves *Ulcers* by its *salso-Acid Taste*.

A *Lixivium* of *Oyster-shells* changes the *Bitterness* of the *Species* of the *Bitter Decoction* boiled in it into a *Sweetness*, and this therefore may be used to correct *Choleric Heart-burning* in the *Stomach*, and this may correct the *Bitterness*, as well as *Acidity* of *Humours*. But from this Experiment let our Prescribers consider, whether they do not abate the *Vertue* of the *Cortex*, by extracting it with a fixt *Salt*, since the *Taste* of it is altered thereby.

I remember, a *Tincture* of *Wormwood* made with *Brandy*, and *Salt* of *Wormwood*, did not taste very *bitter* by being made with a fixt *Salt*; but that made with *Spirit* of *Wine*, and a little *Oyl* of *Sulphur*, was very *bitter*; and in the *Vomitings* of our Patients we find both very *bitter*, and very *sowre*, which did not correct each other, but a fixt *Salt* in this case may correct both *sowre* and *bitter*.

C H A P. XIII.

*Of the Vitriolic Acidity
of the Blood.*

IN the most *Healthful Blood*, we discern many Tastes besides a *Sweetness* and *Saltiness*; a *vitriolic* or *chalybeate* Taste is evident, therefore we cannot doubt of the *vitriolic Acidity* of the *Blood*, nor that it is produced from the *tartareous Acidity* of the *Chyle*, which, by Digestion, is exalted, and volatilized into a *sulphureous Spirit*. The *Acid sulphureous* fumes from the *Earth*, produce the *Tartar* in *Plants*, as it is mixt with *Earthy Parts*; but by the *Animal Digestions*, and *Fermentations*, and *Precipitation* by *Salts*, the *Acid* may recover its *Mineral Nature*, and appear to be a *vitriolic Acid* in the *Blood*, or else it may acquire that Savour by its Mixture with the *oily, acid, fætid Particles* of the *Blood*, which somewhat resemble *Sulphur*.

This

This *vitriolic Acidity* was the Natural *Alimentary Melancholy* of the *Blood*, which the Ancient Physicians observed in it. They called it a *Black Humour*, which gave the *Blackness* to the *Blood*; for it is certain, that *Acids* turn the *Blood* *black*. They believed there was an *Astriction* in this *Humour* to bind the *Belly*; and it is plain, by the *vitriolic Taste*, that it is capable of Binding the *Body*; for *Spirit of Vitriol* and *Vitriolum Martis* bind the *Body* by their *Stypticity*, though *tartar Acids* purge, and have not that effect, unless they be *acerb*. They believed it to be cooling and drying, because of the cooling quality of *Vinegar*; and by being a great *Diuretic*, both *Vinegar* and the *vitriolic Acid* dry up or evacuate the *Succus Nutritius*. All *Melancholy* Persons are great *Spitters*, and make too much *Urin*, and the *Ancients* called those *Constitutions* *dry*, who had little of the *Succus Nutritius* in them to make the *Habit* of the *Body* plump, as it is in *Lean* Persons, and the *Fat* more *moist Constitutions*. *MSD*

They esteemed this Natural *Melancholic Acidity* to be the *limous* or *slimy, fæculent* Part of the *Blood*, like to the *Lees* of *Wine*, and so compared it to the Element of *Earth*, for in all *Tartar* there is a great deal of *Earth*, which makes it to subside
in

in the *Wine*; and this *black Melancholic Acidity* colours the bottom of the *Blood* most, when it is cool in a Dish.

This *Chalybeate Taste* is in all *Blood*, and is Natural to it; part of it constitutes the *splenetic Humour*, when it is mixed with a *Sliminess*, and it is separated by its *Glands*, for the Use of the *Choler*, which is precipitated from the *Blood* by it. I boiled a *fresh Spleen* of a *Hog*, which made a very *slimy Decoction*; I put some *Choler* to it, and they readily mixed together; and I thought it very probable, that the *Sliminess* which makes *Choler ropy* was from the *Spleen*: This *vitriolic Acidity* may give a Consistence to the *Blood*: It fixes its *Salts* and *Oyls*, by coagulating with them into a *salso-acid Taste*, and by that disposes the *Serum* for its passage by the *Kidnies*.

I have described the *Tartar Acid* above, but here must consider only the *vitriolic Acidity*, as an effect of too high a *Digestion*, or *Fermentation* of the *Humours*, and being in this State, the *Ancients* called it *Atra Bilis*, which is extreamly *hot*, *corroding*, *burning*, *exulcerating*, and being spilt upon the *Earth*, it ferments it like *Vinegar*, or *Aqua Fortis*, and excites *Bubbles*.

The Ancient Physicians reckon four Species of this *Atra Bilis*, but in reality there is

is but one, which is produced from the *vitriolic Acid* of the *Blood*, by a Fervor or Putrefaction of *Blood*, and the differences of the *Atra Bilis* are either from a Mixture of *Choler* with it, or *Blood*, or *Serum* of the *Blood*, or Corruption of some of our Diet in a *Surfeit*.

1. They attribute one Species of the *Atra Bilis* to the Exustion of *Choler*, which, in reality, is nothing but a Mixture of the *splenetic Acidity* too high digested with *sharp Choler*, and this Mixture is either naturally made in the *Gall Bladder*, and *Hepatic Vessels*, and the *Choler* is then observed to look *black* in the *Vesicâ Felleâ* upon Dissection; or else, this *vitriolic Acidity* being ~~pretty~~^{prefer} naturally evacuated into the *Stomach* and *Guts*, it there mixes with the *Choler*, and produces *black Vomits*, and *Stools black*, and this appears in the *black Jaundice* by the *black Colour* of the *Skin*, and in some *Fits* of the *Cholic*. *Generatio Atræ Bilis à nimio calore dependet, quia humores valde adurere solet*, was the Observation of *Sennertus*.

2. They attribute a second Species to *putrid, burnt Blood*, which is only the high digested *vitriol Acid* of the *Blood*, mixed with *putrid Blood*, which is made very *black* by the *Acidity*, and this appears like *Pitch*
or

or *Tar* when it is evacuated from some *Artery* in the *Stomach* in the *black Hypochondriac Vomitings*, or from the *Blood-Vessels* in the *Piles*, or *bloody Stools*. The real *Atra Bilis* is distinguished from this, because it does not grow *thick*, as *Blood* being cold does. This Species gives a *Blackness* to the *Urin*, and if the *Blood* be taken from a *Vein*, the *black Fæces* subside to the bottom of the Dish, as this may be observed, for which reason I cause such *Blood* to be taken in a Glass.

I have met with a remarkable Instance of this kind in a Gentleman, after a long Fit of the *Gout*; he was about Fifty Years Old, and always subject to *Pains*, and *Vomiting ill Humours* from his *Stomach*.

He Vomited a *black Serum* in great quantities: I guess four or five Gallons in a Weeks time; what came by *Stool* was *black*, as *Tar*; his *Blood* let out of the *Veins* of the *Arm* had a great *black Sediment*, like that he Vomited; the *Blood* taken away looked very *Sixie* or *Rheumatic*, and the *black Sediment* filled half the Glass, which was full of *Blood*; upon the *Humour* which was Vomited, I made the following Experiments.

The *black Serum* turned *reddish* with *Spirit of Harts-Horn*, and it had the same Colour

Colour from *Salt of Wormwood* mixed with it, whence it is evident, that this *black Serum* was originally *Blood*, the *red Part* being *blackened* by an *Acid*; this would not inspissate by the *Fire*, and therefore was not pure *Serum*, neither did it contain much *Viscidty* in it, for *Oyl of Vitriol* could not coagulate it, neither did it change its Colour, because it was changed *black* before, to which *Acids* change the *Blood*; neither for the same reason did *Alum* coagulate it, or change its Colour, for *putrefied Humours* neither can be inspissated by the *Fire*, or coagulated by *Acids*.

Sublimate alone coagulated it, and changed it into a *greyish* Colour.

Galls did not *blacken* the *Humour* more, but set to the *Fire* it turned *whitish*; and hence it appears, the *vitriolic Acid* of the *Blood* does not strike a *Black* so great as common *Steel vitriols*.

Syrup of Violets mixt with the *black Serum* became *reddish*, as if an *Acid* were mixed with it; and from hence I collect, that some *Acid* was in that *black Humour*. I observed no Smell in that *Humour*, nor the Patient any Taste, as he informed me.

I evacuated this *Humour*, being corrupt, by *small Beer* plentifully drank, by which he Vomited plentifully, being Sick; and I
Purged

Purged him with *Sena* every Day, or gave *Glysters*. When this *black Humour* stopt its Evacuation, he was very Sick, and it caused *Convulsions*.

I could not procure the opening of this Gentleman, when Dead, and so wanted an Information whether this *Humour* came from the *Arteries* of the *Stomach*, or the *Bileducts*.

3. The Third Species of *Atra Bilis* was attributed, by the *Ancients*, to the *Pituita Salsa*, which, by long Aduſtion, grew *corrosive*, and this ſeems only to be a *sharp, fiery Salt* of the *Blood* mixed with the *vitriolic Acidity*, by which it is made a *black Serum* or *Sanies*, ſuch as in *cancerous*, or other *putrid Ulcers*.

4. The Fourth Species of *Atra Bilis* the *Ancients* make the *Natural Melancholy*, *burnt*, or *putrefied*, or *over-fermented*, and this is that I call moſt properly the *Atra Bilis*, which, by Mixtures, makes the ſeveral Species mentioned: and one more I find Authors have forgot, but I have met with it in my Practice, and that is the *Meats* that corrupt and putrefie in the *Stomachs* of thoſe who have that *Atra Bilis* in their *Bloods*, for this *blackens* the Vomits in ſuch Conſtitutions, and gives alſo *black Stools*; and this I lately obſerved in a Perſon very Healthful, of a
good

good Stomach, but black Countenance; at first he Vomited *black*, and *bluish Humours* afterwards, but the *Stools* were all *black*, with *Fainting*, and *cold Sweats*.

I let this Patient *Blood*, but found no *Blackness* in it; so that these *black Serum Stools* were no Corruption of that; neither would *Spirit of Harts-Horn* turn this *Humour reddish*, as it did the *black Humour* which was produced from the *Blood*. I Purged him, but after some few *Stools* at first *black*, none of the last were so; and by Purging off the *Surfeit*, which was made by *stale Beer*, and *hanged Beef*, he recovered.

The Signs of the *vitriolic Humours* are chiefly the Evacuations of the *black Humour* by *Urin*, and *black Spittle* from the *Lungs*, like a *Spider's Web* over it in the *Asthmatic*, and *Splenetic*. The *Saliva* tastes *salso-Acid* in *Catarrhs*, *Ulcers* of the *Mouth* and *Gums*, and *Rottenness* of the *Teeth*. The *Mucus* of the *Larynx* being Coughed up causes *Consumptions*, *Spitting of Blood*, *Catarrhs*, and tastes *sweet*, *vitriolic*, like *Blood* it self.

The *slimy Lympha* of the *Stomach* being *vitriolic*, causes *Vomiting*, *Heart-burning*, or a great *Appetite*, *Hypochondriac Ructus*, and *Pains* of the *Stomach*.

L

The

The *Nervous Lympha* is *vitriolic* in *Melancholies*, which causes a *Fear* and *Sadness* without a manifest Cause, an implacable *Anger*, *Watchings*, or *Dreams* of *black things*, or *Devils*. Their *Motion* is *slow* and *grave*, their *Aspect* *inconstant*, *sad*, and *frightful*.

The *serous* and *nutritious Lympha* is *salso-acid* in the *Hypochondriac*, by which it is made unfit for Nourishment, for nothing nourishes but a *sweet Humour*. The *Acidity* curdles the *Serum*, and that stops in the *conglobate Glands*, and breeds the *Scrophulæ*, and *schirrous Tumours* of the *Liver* and *Spleen*.

The *Urin* is *pale*, and plentiful in *Melancholy Constitutions*, and frequently full of a *Sediment*, which sticks to the sides of the *Pot*.

The *pale Urin* gives an *Acid Dysuria* to be tempered by *Harts-Horn Spirit*, or *Steel*.

The *Blood*, the *Choler*, the *Serum*, and the *Juyces* of the *Stomach*, look *black* by the *Atra Bilis*.

The *Skin* appears *dry*, *hard*, *cool*, and *rough*. The Colour of the *Face* is *brown*, or *black*, or *lead coloured*, from the *Atra Bilis* mixed with the *succus Nutritius*. The habit of the *Body* is *thin*, and *lean*, and the *Hair* is *black*, *hard*, and *curled*.

The

The *black Humour* is vomited, and purges downwards; the *Hæmorrhoids* swell, and break; there is much *Spitting*, but the *Belly* is *bound*; the *Urin* is *black, livid, thick*, but sometimes *thin and white*; a *Cremor* swims on the *Urin* with much *farinaceous Sediment*.

The *Pulse* is *slow and hard*.

Melancholy Distempers preceed; as *Quartans*, *Swelling of the Spleen*, *Leprosie*, *Varices of the Legs*, *Hæmorrhoids*, great *Voracity*, and little *Thirst*, but *Acid Ructus*.

Their *Parents* were *Melancholy*. The *Age* betwixt *Forty* and *Sixty*, and a *vitriolic, natural Temper* of *Blood* and *Spirits*, and the *Autumn* dispose to *Melancholy*.

The external evident *Causes* of the *Atra Bilis*, are,

1. A high fermenting *Diet*; as *old Cheese*.

Flesh-Meats which are strong and blackish; as *Venison*, *Hare*, *Swines*, *Beef*, which abound with a *black Blood*; *Birds* feeding in *Fens*; as *Geese*, *Ducks*, *Woodcock*, *Snipes*, *Swans*, &c. by *Drinking Fen, Vitriolic Waters*, have both *black Blood* and *Flesh*; *Fish* in *Ponds*, and *Sea-Fish*, which are called the *Cetacei*, *salted* or *dried* in the *Smoak*, have a *falso-acid Taste*, and breed *Melancholy*: The *Drinking* of such *boggy, vitriolic Waters* dispose to *melancholical Humours*.

Strong Wines or *Drinks*, *fryed Meats*, and those dryed in the *Smoke*, *Acrids* and *Aromatics* in our Diet, over-ferment the *Blood*; as *Fasting* does, and all produce an *Atra Bilis*.

The *salt Sea Air* fills the *Blood*, with the *Sulphur* fumes from it, and the *Fens* with *vitriolic*, *sulphureous Exhalations*; for *vitriolic*, *blue Concretions* swim on such *Waters*.

2. The *Melancholic Evacuations* stopt by the Suppression of the *Hæmorrhoids*, or the *hepatic Flux* which is from the *Arteries* of the *Mesentery*, or the *Varices* vanishing, or the stoppage of *Sweat*, in a sedentary Life.

3. By too much *Evacuation* of the *Spirits*, by *Watchings*, *Cares*, *Studies*, *Solicitude*, *Anger*, *Exercise*, the *Motions* of *Humours* are quickned, and the *Digestions* heightened, and the *Oily Parts* of the *Humours* evaporated, and the *Vitriolic* remain, and prevail over all.

The inward Causes of the *vitriolic Acidity*.

1. A *black, vitriolic Humour* in *hot* and *dry Constitutions*, which makes the *Blood black*, and the Colour of the *Face* so too, and this is increased by being in a *hot Region*, or *hot time* of the *Year*, by *hot Diet*, or *violent Passions*, &c.

2. The

2. The Evaporation of the *oily Spirits*; so *Vinegar* is prepared, when by the Heat of the *Sun*, or *Fire*, the *Spirits* are evaporated.

There is in the *Spirit* of *Wine* some *Acidity*, by which *Brandy* curdles *Milk*; and that there is such an *Acidity* in *Animal Spirits* is probable, for the *Animal Spirits*, like that of *Wine*, are very inflammable, or a thin lucid Flame; and it appears, that some *Acid* makes *Oyls* more inflammable; for *Oyl* of *Turpentine*, and fresh *Aqua Fortis*, upon their Mixture, turn into a *Flame*. All the *Spirits* of fermented *Liquors* are *acid*, *oleous*, and are very *pungent* on the *Tongue* by their *Acid*; but if the *Oyl* be separated, they taste only *sowre*, or *sharp*, from their *Tartar*. After the same manner the *Spirits* of *Animals* are compounded of a *fætid Oyl*, and *vitriolic Acid*; and the *spirituous* Parts of all fermented *Liquors* have the same Composition; and these being the most *volatile* Parts, must needs compose the *Spirits* of *Animals*, which are produced also by the *Fermentation* in the *Stomach*, and after are prepared by a *long Digestion*, or *Circulation* in the *Blood*; therefore, if the *Oily* Part be evaporated by *violent Passions*, or *Diseases*, the *Spirits* remain *vitriolic*, or like *Aqua Fortis* in the *Melancholy* and *Hysteric*

Persons; and this *Acidity* of the *Spirits* infects the *Blood*.

3. There is another way of Preparing *Vinegars* besides the *Evaporation* of the *Spirits* mentioned, which is, by addition of a new *Ferment* to *Wines*; and by both these ways the *Blood* becomes *vitriolic*. I have mentioned the *Evaporation* of its Oily *Spirits*; and now will describe the *Ferments* which sowre it.

The *Viscera* filled with *putrid Humours*; as in the *Phthisis*, old *Jaundices*, wherein the *Lungs* and *Liver* are ulcerated, send a *putrid Ferment* into the *Blood*, and these ferment the *Blood* into an *acetous Temper*.

So the *Natural Humours* long detained, as the *seminal Matter*, which is of a fermentative Nature, or by the *Hæmorrhoids* or *Menses* retained, the *Blood* suffers an *Ebullition*, and it is not unusual, that any *Animal Humour* corrupted should become a *Ferment*, as appears in the *Saliva* of a *Mad Dog*; and in all contagious Diseases; as the *Itch*, *Pox*, and *malignant Fevers*, wherein the corrupt *Humours* ferment those which they infect into the same preternatural State.

Burning Fevers are commonly the occasion of the *Atra Bilis*, for they make the *Blood* black and thick; and *Pestilential Fevers* have the same black *Humours* both in the
Skin,

Skin, and sometimes evacuate it by *Stools*, or *Vomiting*, or *Urin*.

Galen affirms, That all who evacuate *black Humours* in the *Plague* die; but those who do not, have the *black mortified Blood* in the *Skin*, where it spots it; and he imputes this *Blackness* to the over-heating or *Aduſtion* of the *Blood*; and he imputes all *melancholy Caſes* to the ſame extraordinary *Aduſtion* of the *Blood*, γίνονται αἱ μελανχολικαὶ καὶ αἱ ἐκ συνκωσίου αἱματὸς.

This *Atra Bilis* happens in *Hæmorrhagies*, where the *Fibers* of the *Blood* are *putrefied*, and *black* in the bottom of the *Chirurgion's Diſh*.

The Ancient Phyſicians eſteemed the *Spleen* to be the place where the *Atra Bilis* is bred, which, in *old* and *hot Animals*, appears very *black*; but in *young ones*, or thoſe of a *cooler Conſtitution*, more *reddiſh*; for the *vitriolic Acid* is more ſtrongly digeſted, and becomes more *ſharp*, and blacks more in the *old* and *hot Animals*, than in the contrary. They thought the *Spleen* attracted ſuch a Humour as the *Lees* of *Wine*, or the *Amurca* of *Oyl*; and this is the *vitriolic Acidity* mentioned.

4. The *Obſtruction* of the *Spleen*, when *ſchirrous* or *inflamed*, obliges the *vitriolic Humour* to paſs through the *Arteries* into

the *Stomach*, and there it corrupts its *Ferment*, and changes all the *Mass* of *Meat* towards an *Acidity*, like too much *sowre Leaven* in our *Bread*; so that *Hysterical* Persons vomit a great deal of *acid Humours*, and so do the *Hypochondriacal*, and both eat too much, and have their *Bodies* too much bound. Or else the *vitriolic Acidity* passes through the *hepatic Artery* into the *Bile Vessels*, and there, by fermenting with it, it produces those *Fluxes* of *Choler* which happen in the *Cholera*, or *Cholics*, or *Diarrhæa's*, and the various *Colours* of them.

The Cure of the *Muriatic Acidity* of the *Chyle*, and the *Vitriolic* and *Armoniacal* of the *Blood* require,

1. The *Evacuation* of *Acidities* from the *Stomach* by *Vomits*, in *hysterical* and *hypochondriac* Cases, and the frequent gentle *Evacuation* by *Stools*, and keeping the *Body* open by *Lenitives* of *Sena*.

2. All the evident *Causes* mentioned must be avoided, especially a *tartareous* or *muriatic Diet*. Moderate warm things agree well with them, but no very hot ones, nor no *strong Purgers*. The *Diet* must *moisten*, or be *thin* and *nourishing*, as well as a little warm. All *Passions*, *Studies* must be avoided.

3. The

3. The *muriatic* and *vitriolic Acidities* are naturally evacuated by *Urin* and *Sweat*, and therefore we use *Diuretics* and *Sudorifics*.

4. The *Secretion* of the *vitriolic Humour* through the *Spleen*, must be promoted by *Steel Medicines*, which resemble its *vitriol Taste*, and the abundant *Acidity* in the *Chyle* and *Blood* precipitated, as in the Cure of the *Tartar Acerbity*.

5. All *extraneous Ferments* are to be avoided, and *Humours* suppressed evacuated.

6. This *vitriolic Acidity* at last fixes the *Blood*, and makes it congeal, and then the *Digestives* mentioned in the Cure of a *low Fermentation* are necessary, which, by exagitating the *Oily Parts* of the *Chyle* and *Blood*, give them a Predominancy over the *Acidity*.

7. The *high Fermentation* of *Humours* must be checked by the *Diet* and *Medicines* prescribed in the Cure of *too high a Fermentation* of *Humours*.

When the *vitriolic Acidity* chiefly troubles and infects the *Blood*, it may be esteemed the *cold Scurvy*; but when the *Nerves* are also affected by the *vitriolic Acidity* it produces the *Hypochondriac Affections*, and the *Spleen* is obstructed also. It coagulates in the *Kidnies* with some *terrene Matter*, like
Lime.

Lime-Stone, and there produces all the *cal-
culous Concretions*. The *Corrosiveness* of
Humours depends much on too high a state
of the *vitriolic Acidity*; and the *splenetic
Flatuosities* on a violent *Agitation* or *Expan-
sion* of *Spirits*.

First, Of the vitriolic, oleous Scurvy.

In this *Scurvy*, the *vitriolic Acidity* pre-
vails over the *oily Spirits*, and for that rea-
son it produces many of the *Symptoms* at-
tending a *low Fermentation* of *Blood*; for the
Blood becomes *ropy, mucilaginous, and sharply
Acid*, by too high a *Fermentation* of a de-
pauperated *chylous Blood*, naturally more
Acid than *Oily*; the *Urin* is *pale*, and a
salt Cremor swims on it; there are no *Spots*
in the *Skin*, but the *Spirits* are *weak*, unfit
for *Motion*, whence the *Lassitude* proceeds,
or *Fainting, Palpitation of the Heart, and
dull Pains, and Windiness, and the Asthma,*
a *Streightness* of the *Breast*, a *wandering
Fever*, with sudden *Changes of Heat and
Cold*; these are the ordinary *Symptoms* at-
tending the *cold Scurvy*, which in respect of
the *hot, oily, vitriolic State* of *Blood* in the
hot Scurvy mentioned above, it may be called
the *cold Scurvy*, because the *Blood* is more
poor, and less spirituous; but this is also pro-
duced by an over-fermentation of such kind
of

of *Blood*; and the *cold Symptoms* depend on the Greatness of the *vitriolic Acidity*, which coagulates the *Blood*, and fixes all the *volatile Salts* and *Oyls*, and that is the reason it must be cured as in the *tartareous Acidity*.

I. The *Acid* must be evacuated by *Alloetic Purgers*, *Fil. ex Ammoniac. Ruffi*, *Stomach*; or by *Sennates*, or those of *black Hellebore*.

II. The *Fervour* of *Humours* may be diluted by the watery *Liquors*; as *Whey*, *stilled Milks*, *Asses Milk*, *Steel Waters*, *Wine* and *Water*. See the Cure of too high a *Fermentation*.

III. All *Acid Liquors* must be avoided; as *Wines*, *Cyder*, *Beer* that is *stale*; and all the evident *Causes* producing *Acidities*.

IV. The *Scorbutic Acidity* must be evacuated by *Urin*, and the *Digestion* of *Humours* raised.

1. By *Acrid Plants*; as *Scurvy-Grass*, *Horse-Radish*, *Water-Cresses*, *Rocket*, *Lady-Smock*, *Mustard-Seed*.

2. By *volatile and fixed Salts*.

3. By *Turpentine Plants*; as *Pine Tops*, and *Juniper-Berries* in *Drink*, *Gilead Balsam*.

4. By *bitters Acrid* of the *Wormwood* Class; as *Wormwood Wine*.

5. By

5. By the *acid Aromatics* ; as *Angelica Roots, Galanga, Zedoary, Contrayerva, Cardamoms, Orange Peels, Winter-bark.*
6. By the *Laurel, bitter Acrids* ; as the *Bark and Seeds of Ash, Decoction of Guajacum, and the Use of the Cortex.*
7. By the *fœtid, lamium Bitters* ; as *Chamædrys, Marrubium, Wood-Sage, ground Ivy, and ground Pine.*
8. By the *leguminous Bitters* ; as *Broom.*
9. By *nauseous Bitters* ; as *Gentian, Centaury, Buck-Bean.*
10. By the *corrosive Acrids* ; as *Aaron, lesser Celandine, Arsesmart, Piperitis.*
11. *Chalybeates*, which are of least heat ; as *Vitriol Martis* made into *Pills* with *Gum Tragacanth*, or else dissolved in *distilled Milks.*

Secondly, Of the Hypochondriac Affection.
 This seems to differ from the cold *Scurvy*, by being a higher degree of it. When the *vitriolic Acidity* has so far coagulated the *Blood*, as to produce many *Obstructions* in the *Viscera*, especially in the *Spleen*, whence the abundant *vitriolic Humour* is thrown upon the *Stomach*, where it produces *Corrugations*, and *Pains*, and *Inflations*, a great *Appetite*, and continual *Windiness*, and *Vomiting* ; after the *Meat* the *Face* is red,
 and

and the *Hands* burn, the *Countenance* is *black*, and the *Habit* of the *Body* lean.

When the *Vitriolic Humour* affects the *Brain*, it produces *Vertigo's*, various *Fancies*, *Head-Aches*, *Convulsions*, *Palsies*, *Alterations* of the *Pulse*, *Oppressions*, *Trembling*, and *Palpitation* of the *Heart*, *Constriction* of the *Breast*, a *Sense of Formication*, and *Stupor* in the *extream Parts*.

The *Urin* is various, commonly *turbid*, and *thick*, or *blackish*, with *sandy*, *red Sedi-ment*.

The *Belly* is *bound*, and the *Stools* frequently *black*.

A *thin Urin* preceeds some *Fits*.

I am not singular in my Opinion, that the *Acid* of *melancholic Blood* is *Vitriolic*; but can quote a remarkable part of *Sen-nertus*, where he says, *Atram Bilem ipsamq; melancholiam vitriolatæ naturæ participem; aut certe ei cognatam esse, & ferruginei quid sapere, nemo facile negaverit.*

This *Affection* happens about the *Thirtieth Year* of our *Ages*, and then the *Blood* seems to be at its highest *Digestion*; but by *Acci-dents* acquiring a great *Ebullition*, it loses its *Spirits*.

Those *Constitutions* in whom much *sourè Ruçtus* and *phlegmatic Vomits* are observed, bear the *hotter Medicines*; and those who have

have *choleric Vomits* burning in the *Hypochondria*, and *Thirst*, and *Fury* in the *Spirits*, require the *coolest Medicines*.

Sweet things ferment, and are offensive to the *Hypochondriac* and *Hysteric*, which was anciently observed.

Τοῖς Σπληνικοῖς τὰ μὲν δριμέα καὶ τὰ πικρὰ ὀφέλιμα, τὰ δὲ γλυκέα βλαβερά.

The Cure requires,

I The avoiding of a *Tartareous Diet*, and that which is *Muriatic*, and *Vinous*; to avoid *Passions*, *Studies*, too much *Solicitude*, and *Labour*, and to help all *Evacuations* stopt, especially that of the *Hæmorrhoids*.

II. The *Saburra* pituitous, tartareous, or bilious, must be evacuated often by *Vomits*, and the *Body* kept open by *Aloetics*, and *Sennate Medicines*, or *Wines*, and *Clysters*, or *Purging Waters*, and a *Pill* of *Ammoniacum* once a Week.

III. Frequent *Bleeding* small quantities checks the *preternatural Fermentation*, and keeps the *Humours* from *Stagnation* and *Obstructions*, especially the opening the *Hæmorrhoids*, procuring the *Menses*, and giving way to the *varicous Swellings* in the *Legs*, without binding them. *Bleeding* at the *Nose* does good.

IV. In the cold *Melancholy* we use *hot Digestives*; as,

I. A.

1. *Acrids.*
2. *Causticks.*
3. *Bitters ; Elixir Antiscorbuticum, Tinct. Sacra.*
4. *The Salts volatile ; as Sal volatile oleosum, Sal Absynthii, Cochleariæ, and testaceous Medicines.*
5. *The Aromatics, all which are mentioned in the cold Scurvy.*
6. *The Chalybeates, which are most Sulphureous ; as Chalybs cum Sulph. præp. and the Filings.*

V. In the hotter Constitutions all strong Drinks and hot Medicines are offensive, and these require,

1. *Watery Liquors and Medicines, according to the Observation ; Melancholici non diutius curantur, quam humectantur ; and for this end they use Whey, and Syrup of Violets in all black Humours, and cool Clysters to evacuate it. We use distilled Milks, Mineral Waters, &c. Wine and Water to cool and moisten.*
2. *Cichoraceous Bitters ; as Decoct. of Dandelion, Conserve of Cichory Flowers and Roots, Decoct. of Scorzonera.*
3. *The mucilaginous Bugloss, Borrage Leaves, and Flowers, Syr. Borraginis, de Pomis citri.*

4. Sub-

4. *Sub-acid*; as *Juyce of Limons, Citrons, Syr. de Pomis*, which *Syrups* are good in *Whey*, and *Spirit of Alum* to fix *furious Spirits*; but *Vinegar* is injurious to the *Melancholic*.
5. The *Fern Styptics*; as *Polypody, Spleenwort, Ceterach*, these stop the *Fermentation of Humours*. Boil them in *Whey*, or *small Ale*, with *Antiscorbutics*.

VI. The *vitious Acidity* of the *Spirits* must be corrected by,

1. *Aromatic Cephalics*; as *Penny-Royal, Thyme, Sage, Bettony, Lavender*, the *Spirit of Lavender*.
2. By *Cardiac, Odoriferous Medicines* of *Ambergrease*.

Lozenges made of *Species of Diamber*, or *Lætificans Galeni* with *Oyl of Cinnamon*.

Cubebs candied with *Sugar* are good for the *Vertiginous*.

Some *Tincture of Aromatics* with *Ambergrease*.

3. *Testaceous Medicines*, and *Powders* of *Antimony, Steel, Cinnabar Mercury, Lapis Lazuli* with *Purgers*.
4. *Narcotics. Diascordium*, and *Confect. Alchermes* with *Laudanum*.

Fomen-

Fomentations to the *Hypochondria*, with proper *Oyntments*; for *Schirrus* of the *Viscera*, *Baths* of warm *Water* are much commended; an *Issue* betwixt the first and second *Vertebra* of the *Neck* or *Shoulders*.

The best Diet for *Hypochondriac Affection* is, fresh *Flesh-Meats*, and small *Ale*, with *Pine-tops*, *Dock-Roots*, and other *Antiscorbutics*.

VII. *Anti-splenetics*, which open the *Obstructions* of the *Spleen*; for the *Secretion* of the *vitriolic* and *viscid Humours* from the *Blood* are absolutely necessary; for the *Hypochondriac Winds* are to be cured by vomiting up the corrupt, *sowre Ferments*, by diverting the *splenetic Humour* from the *Stomach*, and keeping the *Body* open by *Aloetics*, *Tinct. Sacra*, *Pil. Ammoniacum*.

We use *hot Medicines* in *Hypochondriac Cases*, because of the *Obstructions* by *viscid Humours*, and the evaporated *Spirits* must be supplied by *spirituous Medicines*; and in all long *chronical Diseases* a decay happens in our *Digestions*, for want of *Spirits*, and a *crude Saburra* of *Humours* is produced, though the original *Distemper* proceeded from a *hot Cause*, that is an over-Fermentation of *Blood*.

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Thirdly,

Thirdly, Of the Concretion of Stones or Sand in the Humours of an Animal.

The *Urin* contains three parts.

1. The *viscid Particles* of the *Succus Nutritius*, which make its *Contents*.

2. The *salso-acid* and *oily Particles*, which give the *salso-acid* or *bitterish Taste* to the *Sweat* and *Urin*.

3. The *thin, serous, watery Part*, which carries all the other Parts and dilutes them.

When the *oily Part* of the *Urin*, which I suppose to be the *Choler*, is too high digested, it looks *red*, and *flame coloured*, or deep *yellow*. The *red Part* of the *Blood* seems, in some *hot Bloods*, to colour the *Sediment red*.

When the *vitriolic Acid* abounds, it joyns its self with such *Earthy Particles* as are observed in all *Liquors*, (for *Lime-Stone Particles* may be observed in all *Waters*, but most plentifully in the *Purging ones*) and that, with these *stoney Particles*, coagulates into *Sand* or *Stones*.

The same *vitriolic Acid* coagulates the *Lympha's* into *tophaceous* or *cretaceous Stones* in the *Joynts*, and *Limbs*, and *Lungs*: Not only the *milky Lympha's*, but the *serous*, are subject to this Coagulation, as appears by the *Stones* in their several *Glands*.

If

If the *Salts* of the *Blood* were only coagulated by this *vitriolic Acidity*, they would not appear in any firm *tenaceous Consistence* in the *Stone*; but all *Stones* would be friable, like *Tartar*, therefore this *Acid* coagulates some *viscid Parts* with the *saline*. If there were no *Earthy Parts*, then the *Stones* would appear gummy, or *tenaceous* only, and not *solid*.

Stones are generally bred like *Tartar*, which consists of the *Acid Part* of the *Wine* joyned to the *Earthy*, and mixed with the *slimy Fæces* into a *hard, Stony Substance*: so from the *Tartar of Vegetables*, coagulate with *stony Particles*, the *Stones* and *hard Cases* of their *Fruits* and *Seeds* are produced.

The evident Causes of the *Stone*, are,

1. A *hot, acrid* and *aromatic Diet*, and a *muriatic Diet*, which over-ferment the *Blood*, and supply a *salso-acid Matter* for the *Stone*; or a *viscid*, as all *Diet* of that kind.

2. *Strong Diuretics* force the *salso-Acid* to the *Kidnies* too much, if used too oft, or mixed with our *Diet*.

3. Too much *Venery*, *Baths*, *Passion*, *Flannel*, or *hot Cloaths* on the *Back*, or *soft Beds*, *lying on the Back*, *Exercise after Meat*, *much Riding*; all these weaken the *Kidnies*, by *Heating* them, or forcing the *calculous salso-Acid* thither.

The inward Causes, are,

1. A *rancid, viscous Chyle* from *hard Drinking strong Liquors*.

2. A *Saltnefs of Blood*, and a *bilious Temper*.

3. A *vitriolic Acidity* of the *Spleen*.

4. *Narrow Pores, or Canals* in the *Kidnies*.

5. Such a *Conformation of Pores, or Temper of Humours*, may be derived from the *Parents*, and *Children* have *Stones* bred in them before they are *Born*, for the same reason; and because they retain their *Urin* so long in their *Urinary Vessels*, whilst *Embryo's*.

The *Stone* is often bred from the *Nurses Milk*.

The *Cure* of the *Stone* consists,

I. In *evacuating and correcting the rancid Chyle, the Saltnefs and Viscidity of Blood*, and the *vitriolic Acidity*, as is above-directed, and *evacuating the calculous Serum* by *Diuretics*.

II. In *making the Passages slippery*,

1. By *Vomiting*, with *Posset-Drink*, in which *Althea Roots* are boiled in the beginning of *Fits*.

2. By a *mucilaginous Glyster*, and *Bolus of Cassia*.

3. By

3. By *Emollients*, *Baths*, or *Fomentations* ; as ~~Cum~~^{Oily} *Mallows* and *Pellitory* fried with *Butter*, and applyed. By *Emollient Plasters* and *Oyntments*, *Empl. Melilot*.
4. *Oily Medicines* ; as *Oyl of Sweet Almonds*, and *Sperma Ceti* ; an *Oily Glyster*, *Oily Emulsions*, *Butter* and *Sugar*, or *Milk* half churned.
5. *Watery Liquors* force it ; as *distilled Waters* with *Diuretics*, *Whey*, *Milk* and *Water*, *Asses Milk*, *Mead*, *Posset-Drink* with *Chamomile Flowers*, *Pellitory* and *Mallows*, *Chalybeate Waters*, and *Water* distilled from *Birch Juyce* and *Daucus Seeds*.
6. *Vomits*, *Sneezing*, *Leaping*, *Standing on the Head*, and *Cupping-Glasses*, *Riding*, *Stroaking* the *Loins* and *Belly*, or *Cupping-Glasses*, help to remove the *Stone* ; and *Bleeding* in the *Arm* or *Foot*, and *Purging*, to which *Laudanum* must be added.
7. *Narcotics* allay the *Pain*.
8. The *Glysters* may be made *deterging* ; as of *Turpentine*, *Urin*, and *Purgers* ; or *Carminatives* and *Diuretics*, with *Soap* and *Oyls*.

The Preservation from the *Concretions* of *Stones* requires,

1. *Vomiting and Cholagogues, Purging Waters, or Purging Antiscorbutic Diet Drinks; or Purging once a Month.*

2. *The salso-acid or vitriolic Blood is corrected by Chalybeate or Bath Waters, Asses Milk drank, distilled Milk, Oat Mault.*

Whey with Antiscorbutics, Water drinking, a Toast and Water, and Nutmeg, every Morning fasting; or Antiscorbutic, cooling Juices, Emulsions, Strawberry Water.

3. *The vitriolic Acid requires temperate Chalybeates, Testaceous, Salts volatile and fixed, Tinct. Antimonii, Tartari.*

4. *The Use of Vulneraries which deterge; as Veronica, Strawberry Roots, Virga Aurea, Hypericon, Millefoyl, ground Ivy, Pine Tops, Ceterach boiled in Beer or Water, to which Honey and White-Wine must be added, and Lucatellus's Balsam taken at Night, or Turpentine Pills with Bole cum Mastich, or Rhubarb. A Plate of Lead must be worn on the Back.*

The Stone in the Bladder must be cured,

1. *By Diuretics, if the Stone be small, and can pass; as by the Acrids or Caustics, as Water distilled from Caicus, or the Powder of Millepedes 5i.*

2. *By Lixiviums.*

3. *By Cutting: if the Stone cannot pass the chalybeate Waters do Injury in such a case,*

case, and the palliative Cure requires the Evacuating the *calculous Matter* which increases it; the allaying the *Pain* and *Strangury* by *gum* and *mucilaginous Medicines*; as *Comfrey Roots*, *Milk* and *Water*, *Emulsions*, and *Asses Milk*, and *Narcotics*, and *Vulneraries*.

Fourthly, Of the *Hypochondriac Flatulencies* arising from too high a *Fermentation* of *Humours*.

Windiness is an extraordinary Complaint in all *Hypochondriacal Cases*, which arises either *Symptomatically*, from the *Obstruction*, *Schirrus*, or *Inflammations* and *Imposthumations* of some of the *Viscera*; or else it depends on some *viscid*, *sowre Phlegm* lodged in the *Stomach*; or some *putrid Humour* which ferments the new *Mass* of *Meat* into continual *Eruptions*, which taste either *hot*, *burning*, *broyling*, *fat*, *fætid*, or very *sharp*, *sowre*, according as the *Ferment* of the *Stomach* is *tinctured*, either with too much *bitter Choler*, *salt Serum*, or the *vitriolic Spleen Juice*, which is also *viscid*, and thrown upon the *Stomach*.

The Cure of this *Flatuosity* requires the Evacuation of the *flatulent Mass*, and the *vitiated Ferment*, and afterwards the *Humour* that *tinctures* it must be carried off

by those *Glands*, which are made for its *Secretion*. We must, lastly, use those *cooling Alteratives* which are prescribed in the over-fermentation of *Humours*. This is the *Flatulency* properly of the *Chyle* over-fermented; but the second Species of *hot Flatulencies* is from too great a Rarefaction or Expansion of the *Spirits* in the *Mass* of *Blood*; and such a Fret of the *Spirits* we observe in all *vinous Liquors*, when they are kept too *hot*; for then those *Liquors* are very *windy*, and taste *hot*, and *froth* much. Such is the Temper of the *natural Spirits* of the *Blood*, when it is apt to *febrile Effervescences* upon very slight occasions, in *Hysterical*, *Hypochondriacal*, or *Scorbutic* Persons, who are sensible of sudden Alterations of *Heat* and *Chilness*; and I have observed in a *Scorbutic* person, a sudden *Tumour* rising in the *Flesh*, which would immediately subside again. This *flatulent Effervescence* of *Spirits* must be cured as an *Ephamera*, removing the Occasion, and tempering the *Humours* by *Acids*, *Acerbs*, *Mucilages*, and *Opiates*, as will hereafter be described, and the Disposition to this *Flatulency* will be removed by a long use of the *Cortex*, and those *cooling Alteratives* which depress too high a *Fermentation*.

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There is a third kind of *hot Flatulency*, which happens in the *Nerves*, who receive their *flatulent Spirits* from the *Blood*.

In the *Nerves*, the *Spirits* being rarefied or expanded, produce the *Asthma*, of which I shall particularly treat; or the *Tympany*, *Cramps*, and *running Pains*.

Poysons tumifie the *Body*, by rarefying the *Spirits*; and some who die of *Convulsions* are prodigiously *swell'd*; those who die of the *Iliac-Passion* have their *Bellies* much *swelled*.

This *Nervine Flatulency* requires the same Method for Curing the *Inflammation* of the *Spirits*, as in an *Ephemera*; and also the same Method for preventing any new fit of *Windiness* in the *Nerves*, as is mentioned above; for the *Natural* and *Animal Spirits* differ not in Nature; for what is in the *Blood* now, after a small time is carried through the *Nerves*, and so returns into the *Blood* again.

The *Ferment* producing *hot Flatulencies*, was esteemed, by the Ancient Writers, to be, *Humores adustos, atrabilarios, acidos instar fermenti sese habentes*, as *Sennertus* describes it; and of this Opinion was *Diocles*, *Carystius*; for which he quotes *Galen's Third Book, de Locis affectis*.

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The *crude Flatulencies* are produced by a *weak Heat*, as they called it; that is, a *low, crude Ferment*, which does not thoroughly ferment the *Meat*, and that is either *serous*, or a *viscid Slime* in the *Stomach*, or *tartareous Acidities*; but in all *hot Flatulencies*, the *Ferment* producing the *Flatulencies* is either *bilious*, *saline*, *vitriolic*, or *putrid*. Some *Flatulencies* are imputed to the *Contrarieties of Humours*; as that which is produced by *fixt Salt*, or *Alkali*, and *acid Spirits*, such may be observed in the *Guts*, betwixt *acid Meats*, and *acrid Choler*, which produce the *nitrous Flatulency*.

These following *Flatulencies* are not produced by a *weak Heat* or *Fermentation*, but by *adust Humours*; that is, an over-fermentation, as the *Flatus* in a *hot Cholic* are from *Inflammation* of the *Guts*.

The *Tympany* depends on a *hot Flatulency* rather than on a *cold*, or *low Fermentation*.

The *Hypochondriac Affection* is accompanied with so much *Flatulency*, that it is called, $\pi\alpha\theta\omicron\ \phi\upsilon\sigma\iota\varsigma$, and depends on too high a *Fermentation*, and the *Blood* is too *thick*, and *hot*, and the *Spirits inflamed*.

These are *Flatulencies* depending on the *hot Ferments* mentioned; and these produce it from any kind of *Meat* taken; but there is a different *Flatulency* arising from the *hot Spirits*

Spirits lodged in some kind of *Meats*; as in *Poysons*, *Garlic*, and many *oily Fruits*, and *fryed Meats*, and all other *Diet* which turns *nidorus* on the *Stomach*.

Any *Animal Humour* kept to putrefie, as the *Serum* of the *Blood* long bottled, becomes *flatulent*; *Putrefaction*, in all *Tumours* ripened, *swells* them; by which it appears, that all *Windiness* is an effect of some preternatural *Ferment*, either too *strong* or *weak*, or mixt with other *Humours*, by which it preternaturally ferments them; for when the *stomachic Ferment* does its Office well, no *Ructus* are produced; and from hence it appears, that the *windy Fumes* or *Vapours* are nothing but the *natural Spirits* of our *Humours* ill fermented; and these coming into the *Nerves*, produce what we describe by *Vapours* in the *hypochondriac* and *hysteric* Cases; for all sorts of *Convulsions*, as *Epilepsies*, *hysteric* and *hypochondriac Fits*, *Vertigo*, the *Palpitation* of the *Heart*, *Singultus*, *Chorea Sancti Viti*, depend on the *highest* and *hottest Flatulency* of our *Spirits*; but the *Tympanites*, *Asthma*, *Incubus*, are different from the former, as much as a gradual *Elasticity* or *Expansion* of the *gentle Air* does from a *violent Blast* or *Storm*. I will here annex a strange Account of a *Priapismus*, from *Windiness*, first premising, that it is
no

no effect of a *Venereal Distemper*, nor a *Melancholic Fancy*. The Person is of a middle Age, and fat habit of Body, who every Night has a *Priapism* in his Sleep, *cum emissionem Seminis*; it never seizes him but in his Sleep at Night, and never in the Day-time, though he sleep then. This *painful Erection* he imputes wholly to *Windiness*, and thus he describes it; I often plainly and loudly hear the *Wind* to make a Noise in that part, like that of the *Guts*, especially in a Morning; for, constantly, as soon as I wake, the *Wind* begins to return from that part, and in going back is very audible for near a quarter of an hour, till the Part is fully fall'n; and sometime when it is returning I find a *Pain*, and Fulness ensues in my Breast; and, at the same time, I have constantly a Noise and Piping in my Ears. He bled in the *Penis* without any Benefit; and drank *chalybeate Waters* without any great Success, and used *Steel* and *Nervines*, *Fomentations* and *Unguents*.

The Medicines against a *Priapism*, ^{from} ~~above~~ the hot *Flatulencies*, are nitrous Medicines, *Spirit of Niter*, *Emulsions*, *Acids*, *Narcotics* externally and internally, *Bath Waters*, *Chalybeate Waters*. The hot *Carminatives* are *Camphire*, *Rheu*, *Cummin Seeds*, *Species Diambræ*, *Agnus Castus Seed*, and *Hemp Seed*. *Glysters* do more than *Purges*. The

The *Indications* in the Cure of the *hot, fætid Flatulencies*, are,

I. To evacuate by *Vomits*, or gentle *Purges*, or *Glysters*, the *nidorous, Acid, bitter Salt*, or *fætid Mass* from the *Stomach*, and by frequent *Purges* to divert those *Humours* from thence, which give an ill *Tincture* to the *Ferment* of the *Stomach*. *Cholagogues* and all the *specific Purgers* are here proper, *Purging Waters* especially.

II. To correct the *choleric, salt, vitriolic* or *putrefactive State* of the *Blood*, which infects the *stomachic Ferment*; and for this we must use those *Alteratives* which are prescribed for each *Cacochymia*.

III. All the *hot Flatulencies* of *Humours* must be depressed, by fixing the *fermenting Spirits*.

I. By *Acids, Sp. Nitri dulcis, Salis dulcis, Succu Citri, Ribium, Decoct. Tamarind. Elixir Vitrioli, Elixir Proprietat. cum Acido, Crem. Tartari, Spirit of Vinegar.*
Rx Aq. Menth. Simp. Fl. Chamomeli, Fœniculi. an. ℥iv. Sp. Carui ℥iss. Sp. Aceti ℥i. ocul. Canc. vel Antimonii Diaph. ℥i. Syr. Corticis Aurant. ℥i. Laud. gr. iij.

Gas. Sulphuris, Cochi cum Aq. Paratæ Haustu.

2. By

2. By *Salso-Acids*.

Acids mixt with *Volatiles*; *Mixtura Simplex*.

Sp. Carminans Secretus ex Tartaro & Nitro.

Sal Prunellæ, *Sal Armoniac*, and all *nitrous Medicines*; *Sal Succini*.

3. By watery Liquors; as *Aq. Parata*, distilled *Waters*, drinking *Wine*, and two parts of *Water*, or *Wood-Drinks*, *Spaw-Waters*, *Milk* and *Water* in salt *Cacochymia's*, the *Bath Waters* inwardly, but outwardly they increase all *hot Flatulencies*. *Cold Water* is more useful, or *Vinegar* and *Water*, dipping or immersion in *cold Water*, *Solutions* of *Niter*, and *Sal Armoniac*.

The cool *Juyces* of *Plants*; as *Sempervivum*, *Purslain*, *Brook-Lime*, *Plantain*, and *Raw Fruits*, cool such *flatulent Bloods*.

But since all the *hot Flatulencies* procure a decay of *Spirits*, the *Fermentation* becomes at length depressed; and as in all *chronical Diseases* a *Saburra* is produced, which requires *Digestives* of the cooler kind to renew the *Fermentation* of the *Blood*, and depurate it from some *secretitious Humour* suppressed. As,

1. The cool *Chalybeates*; as *Vitriolum Martis*, *Chalybs Willisianus* in *Milk Waters*.

2. The

2. The ~~wild~~^{mint} aromatic Carminatives, and gentler Bitters; as Chamomile Flowers, Zedoary, Angelica, Orange Peels.

3. The Use of a moderate Diet, in which there is little Slime, or acrid Parts, especially Liquors in which no spirituous Parts are, and which are not apt to ferment.

The Nervine, hot Flatulencies cannot be composed without Opiates, which weaken the Elasticity of the Spirits. All hot Nervines, as Castor, the hot Gums, Assa, Galbanum, and all Amber Medicines, increase the hot Flatulencies, and also all Chymical Oyls, Balsams, and all Salts, whether volatile or fixed, and also all hot Applications outwardly; but the cool Medicines mentioned above, which cool and temper the sanguineous Spirits, have the same effect upon the Animal, or Succus Nervosus.

It often happens that there is a cool Flatulency depending on a weak Digestion in the Stomach, when a hot Flatulency infects the Blood and Nerves, as in the Asthma, Tympany, Hypochondriac and Hysteric Cases, and then the Medicines must be mixed, and of a middle temper, neither too hot, nor too cold.

Rx Aq. Menth. Fenicul. an ℥iij. Sp. Carminativ. Sylvii ℥iss. Sp. Nitri gr. xx. Ol. Juniperi gr. vi. Syr. Cort. Aurant. ℥iss. Laud. gr. iij. Capiat cochleat.

Fifthly,

Fifthly, Of the Corrosiveness of the Humours.

When *Humours* are *corrosive* they produce *Pains*, *Burning*, *Ulcers*, *Rottenness* of the *Bones* and *Teeth*, and *Fluxes* of the *Belly*, or *Hæmorrhagies*, and a *thin, fætid Sanies* in ulcerated Parts.

1. A *corrosive Acidity* in the *Stomach* and *Belly* produces the *Pain* and *Heart-burning* in the *Stomach*, a *Cholera*, or *Cholick*, or *Dysentery*, or *Boulimia*, and *Ulcers*.

2. A *corrosive Temper* of the *Spittle* corrodes the *Teeth* and *Gums*, and occasions *sharp Catarrhs*. The *corrosive Temper* of the *Mucus* of the *Aspera Arteria* produces a *Phthisis*, *Spitting* of *Blood*; and the *corrosive Temper* of the *Mucus* of the *Nose* an *Ozena*.

3. A *corrosive Acrimony* in the *Seminal Lympha* produces *Salacity*, *Gonorrhæa Simplex*, and *Fluor Albus*, if with *Pain* and *Corrosion*.

4. The *Corrosiveness* of the *Lympha Nervosa* is made evident by *wandering, corroding Pains* of the *Head*, and *Limbs* in the *Scurvy*, and *Lues Venerea*, and in *Convulsions*, or *Cramps*, and *Melancholies*.

5. The *Humours* of the *Eyes* have a *salso-acid Corrosiveness*, which inflames and ulcerates them.

6. The

6. The *Milk* in *Womens Breasts* acquires a *corrosive Acidity*, which produces *cancrous* or *schirrous Tumours*.

7. The *Blood* has a *corrosive Saltness* in the *Scurvy* and *Hæmorrhagies*.

8. The *salt Serum* and the *Lympha serosa* have a *muriatic Corrosiveness*, which corrodes the *Flesh*, and hinders the *Nourishment*.

9. The *Urin* is corrosive in the *Strangury*.

10. The *Bile* is corrosive in *Diarrhæa's*.

11. The *Spleen-Acid* is corrosive in *Melancholies*.

The external Causes of *Corrosiveness*, are,

1. *Sharp, corrosive Diet*, of *sharp, stale Beer*, and *salt Meats*, and *smoked, dried Meats*, *burning Brandy Spirits*, and *sharp, acid Wines*.

2. *Violent Passions*, *Sadness*, *Anger*, *Anxiety*, and *Watching*, *Studies*.

3. *Immoderate Labour*, and *Venery*.

4. *Suppression* of *sharp Humours* usually evacuated.

The internal Causes.

1. The *Ebullition*, or *high Fermentation* of *Humours*, which stands next to the *putrefied State*; for whether the *corrosive Acrimony* be *vitriolic*, *saline*, or *muriatic*, which is a Mixture of both; it depends on a violent, immoderate *Fermentation* of *Humours*. As the natural *Acidity*, *Saltness*, and *muriatic*

or *armoniac salso-Acid* depends upon a natural and moderate *Fermentation* of *Humours*.

Corrosive, Acid Spirits are prepared by *Chymists*, with an extraordinary degree of the *Fire*; and so are the *salt, acrid, pungent Acrimonies*, as that of *volatile Salts*, which taste *fiery, burning, salt, and pungent*. There is a *burning Acid* in *Oyl of Vitriol*, in which the *Acid* is combined with *Sulphur*, and *fiery Particles*.

The *Chymists* prepare another *corrosive* kind of *Medicines* from an *Acid* and *Metal*, which mix in a *cutting, tearing Texture*, such as is that in the *Crystals of Silver*, and *Sublimate*.

In the *tithymalline, corrosive Plants* there is a *Milky Juyce* made of the *Oyl* and *Acid*, both which are very *volatile*.

In *Minerals* there is a natural *corrosive Texture* in *Arsenick*; which contains a *Mixture of Sulphur* and *sharp Acid*.

Whatsoever *corrosive Qualities* our *Nourishment* can acquire by *Distillation* by a *strong Fire*, the same may be produced by *Fermentation*, and *Digestion* in the *Humours*, when they are *over-digested*.

From *Animals*, a *volatile, fiery Salt* may be produced, and by that the *Chyle* and *Blood*, and all their *secretitious Humours* are made *salt*, and the *hotter* the *Animal*, or the *stronger* the *Fire* is,

is, the greater is the *Corrosiveness* of the Salt.

1. The Salt in the *Animal Humours* is made *corrosive* by its too great *Volatility*; and by this the *Apthæ* in *Fevèrs* are produced in the *Tongue* and *Mouth*, as the *Tongue* is *blistered* by *Spirit of Sal Armoniac* very *volatile*. This I call the *Urinous Corrosiveness*, and it is cured by the same Medicines as the *Saltiness* of *Humours*; for these States differ but in degree of a *high Fermentation*, by which they are prepared, and therefore requires the same *Specific Tastes* of *watery, acerb, tartareous* and *mucilaginous Medicines*; but those which are more strong can only succeed in the *corrosive State*.

2. The next Species of *corrosive Acrimony* is produced from a *tartareous*, or *natural vitriolic Acidity* much raised by *Fermentation*, when, being joyned to the *volatile Oyl* of *Blood*, it is made more *sharp*; so from *Bread*, and all *tartareous Vegetables*, an *acid Spirit* may be distilled.

The *Acrimony* of the *Spurge Juyce* resembles this *Acrimony*. The *Oyl* is manifest by the *Milkiness* of the *Juyce*; and that an *Acid* is in the same *Juyce*, appears, because it changes the *Colour* of the *Knife* which cuts it. Moreover, This *milky Juyce* is dryed into a *Resin*, and all *Resins* yield much *Oyl*, and a little *Acid*.

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3. The

3. The Third Species of *Corrosiveness* is from the Mixture of a *pungent, burning Salt*, and a *high vitriolic Acidity*, like that in *Sal Armoniac*, which burns and corrodes the *Mouth*, and this may be called a *muriatic or armoniacal Corrosiveness*.

4. The Fourth and highest Species of *Corrosiveness* arises from *Putrefaction*. All *Putrefaction* is joyned with a *fætor*, and all *fætid Matter* corrodes the *Ulcer*.

The Cure of *Corrosiveness* is by the correcting the *vitriolic Acidity* or *Saltiness*, by the *Medicines* above-mentioned, and by stopping the *high and putrefactive Fermentation* of *Humours*.

The *Acrimony* of *Aqua Fortis* is corrected by the *Oylinefs* of *Spirit of Wine*, or the *Caput Mortuum* of the same *Minerals* from which it is distilled; so the *acid Corrosiveness* of *animal, vitriolic Acidities* is tempered by *Minerals*, or *Animal Ashes*, and *volatile Salts*. And the *salt Corrosiveness* by the *crude Tastes*; as *Tartar Acids*, and *Styptic, mucilaginous Plants*.

The *Saturnine Styptics* stop *Fermentations* most strongly, and so do *acerb Styptics*, as *Plantane*, and *Opiates* also. All *Evacuations* by *Bleeding, Purging*, are necessary, and a *cooling Diet* also.

C H A P. XIV.

*Of the Putrefaction of
Animal Humours.*

1. **T**HE *Meat* in the *Stomach* is sometime *putrid* by too high a *Digestion* in a *fætid Ruſtus*, which is very *Nidorous*, or the *Ulcers* of the *Stomach*.

2. The *Saliva* has a *nauseous, fætid Savour*, ſometimes from *putrid Fevers*, or the *Corruption* of the *Fætus* in the *Womb*, or *Ulcers* in the *Lungs* or *Mouth*.

3. The *Mucus* of the *Aspera Arteria*, and the *Noſe* is *fætid*, from the *Ulcers* in thoſe parts.

4. The *Seminal Humours* are *fætid*, by the *Ulcers* in the *Genitals*; and the *Blood* of the *Infected*, by the *Pox* is full of a *putrid Ferment*, or *acrid Salt*, which makes their *Sweat* and *Breaths* to have a *fætid Savour*.

N 3

5. The

5. The *Spirits* themselves become very *fætid* in *putrefied Bloods*, by *Pains*, and *Passions*, and *Infections*. By *venomous Bites* the *Fætor* is also increased.

6. The *Milk* putrefies by the *Stagnation* in the *Breasts*.

7. The *Humours* of the *conglomerate* and *conglobate Glands* putrefie and ulcerate in the *Scrophulæ*.

8. The *Blood* putrefied has lost its *Fibers*, which makes it not to coagulate when *cold*, and it smells *fætid*.

9. The *Salt Serum* of the *Blood* is turned by *extraneous* or *internal Ferments* into the *Matter* of the *Itch*, *Leprosy*, and *Ulcers*. Upon the *Evaporation* of the *natural Spirits*, the *vitriolic Acid* prevails, on which depends the *chylous Whiteness* of *Matter*, which is precipitated and changed by it; so the *Serum* of the *Blood* is changed into a *white, milky Liquor* by *Spirit of Niter*.

10. The *Urin* and *Sweat* stink in *putrid Fevers*, as the *bilious Stools* do, and the *Blood* it self.

There are Three kinds of *Thinness* in *Animal Humours*.

1. An *aquous Serosity*, which is evident in the *Blood*, which is *crude*.

2. A more *fluid Consistence* of *Blood*, depending on a great *Rarefaction* of *Blood*, whereby

whereby its own *oily* and *salt Particles*, by their Agitation, attenuate and dissolve the *natural Viscidity* of the *Blood*, as appears in *Hæmorrhagies*, and the *hot Scurvey*; this is only the next degree or step to *Putrefaction*.

3. The Third Cause of *Tenuity* in the *Humours* is the *Putrefaction* of them, which is a perfect Destruction of all their *viscid* or *fibrous Consistence*, by a *high* and a *long Fermentation*; so in the perfect, ripe *Matter* of an *Ulcer*, the *Viscosity* is destroyed; and in *putrefied Eggs* their *ropy Consistence* is altered, and made *fluid*, so as not to *thicken* by *Boiling*.

The Causes of *Putrefaction*, and a *high Fermentation*, differ only in degree.

1. The *natural Fermentation* produces only *nutritious Humours*, and no farther resolves the *alimentary Mass* than what is necessary for the perfection of a fit *Nutrient*; but a *preternatural high Fermentation* proceeds farther, and produces both the *Acrimony*, *Saline*, or *vitriolic*, or a *thick Consistence* by *Coagulation* of the *Chyle* upon the *Blood*; but in the *putrefactive Fermentation* it is continued to the perfect *Dissolution* of all the *Viscosity* of our *Humours*, according to the Observation of *Crato*, *Fibræ Sanguinis, cum mittitur insectis peste ita putridæ sunt*,

ut concrefcere nequeunt ; and this is properly called the *putrefactive Fermentation* ; for in the *Plague*, the *Infection* putrefies the *Blood*, and the *coagulate* or *putrid* Parts are thrown upon the *Skin*, and the whole *Body* ftinks ; fo that the *Eremite*, whom *Borellus* mentions, knew a Place infected by the *Plague* only by the *Smell*, which *Smell* was as he related ; *fætidus inftar calceorum uftorum* ; and *Crato* obferved, *contagii & fætoris magnam effe fimilitudinem*.

Whatfoever other *Caufes* produce a *high Fermentation*, and continue the fame very long, they caufe a *Putrefaction* in the *Blood*, as all *feverifh Ferments*.

2. When an *extraneous Ferment* corrupts a particular *Humour*, as the *Pox* doth the *feminal Humour*, the *Itch*, and external *Venoms* from the *Bites* of *mad* or *poyfonous Animals*, infect the *Succus Nutritius*, or *Blood* near the *Skin*, and this is a *virous Putrefaction*.

3. Any inward *Humour* ftagnating corrupts, and becomes a *Ferment*, as the *Sanies* in the *Ulcers* of the *Lungs*, *Liver*, or *Kidnies*, or *Cancers*, or *Gangreens*, which infect and putrefie the whole *Maſs* of *Blood* by little and little ; and this may be called an *Ulcerous Putrefaction*, fuch as is procured by *Suppuratives* laid to *Apoftemes*.

4. There

4. There is a *cadaverous Putrefaction* in *Gangreens*, with the greatest *fætor*, and *Bladders* containing a *sharp Water*. *Cancers* have such a *Smell*, and that is a *corroding Ulcer*.

In the *Scurvy* there is a *Fætor* of the *Mouth*, and the *Teeth* and *Gums* are corroded.

The *Humour* which issues from a *carious Bone* being tasted is *salt*, as *Mr. Regis* affirms.

By the great *Fætor* we may know the *Putrefaction* of *Ulcers*, and the *corrosive Sharpness* of the *Humours*; and this may be called a *Scorbutic Putrefaction*.

The Cure of *Putrefaction* requires,

1. The Avoiding of the evident Causes of *Putrefaction* of *Humours*, and the insisting on an *incrassating Diet*, which may produce a *viscid Consistence* in the *Blood*; as all *viscid Broths*, and *Jellies* of *Calves Feet*, *Harts-Horn*, *Ivory*, *Iceing-Glass*. All the *Mealy Diet* is here very convenient, and *Milk Diet*, and all the Diet prescribed in the Cure of *too high a Fermentation*; but the Diet in *Fevers* must be *thin*.

2. The *sharp Cholera* and *acrid Ferment* in the *Stomach*, and *oily Temper* of *Blood*, must be evacuated, and corrected by the *Medicines* mentioned in the Cure of a *high Fermentation*, for to that all *Putrefaction* must be imputed, according to the Observation

vation of our Ancient Physicians; *ὑπερθερμαίνειται ὁποῦντιον ἀπὸ τοῦ ἀέρος*, whatsoever putrefies is made hotter.

3. Every *extraneous Ferment*, and all kind of *purulent Matter*, must be evacuated according to the old Rule; *non alterari quod putridum, sed tolli postulat*.

These following Tastes check the *Fermentation*, and preserve the *Consistence* of *Liquors*, and precipitate the *Ferment*.

1. *Acids*, by which we stop *Fermentations* and *Putrefactions*. We preserve our *Plants* in *Vinegar*, when *pickled*. We find the *Vinegars*, which we call *Theriacalia Aceta*, to do much good in *putrid Fevers*, and the *Plague*. *Treacle Water* has much of an *Acid* in it. We ferment *Gangreened Parts* with *Vinegar*; and the *Juyces* of *Vegetables* are preserved from *Corrupting* by the *Acid Fumes* of *Sulphur*, which also restore them to their former *Vigour*. The *Oyl* of *Vitriol* is useful to *putrid Parts*.

2. The *salso-Acids* are very good in all *Putrefactions*, and therefore all *Gangreens* are fomented with *Brine*, *Sea-Water*, or *Urin*; and common *Salt* preserves our *Humours* from *Putrefaction*; and *Spirit* of *Salt* is useful for *Imbalming* and *Preserving* of *Bodies*, and against the *Putrefactions* in the *Mouth*.

3. *Styp*

3. *Styptics, Acerbs, and Austeres*; as *Tormentil, Pentophil, Bistort Roots, Bole, Terra Sigillata*, are used as *Preservatives* in *malignant Fevers*, and the *Bitings* of *Mad-Dogs*.

These following *Tastes* preserve the *Mixture* of *Humours*, and their *Fluidity*.

1. *Fixed Salts* hinder *Putrefaction* and *Fermentation*; so we foment *Mortified Parts* with *Lixiviums* and *Lime Water*. Both *volatile* and *fixed Salts* hinder the *fermenting* of *Milk* by *Rennet*, and *volatile Salts* hinder the *Putrefaction* of *Animal Humours* by the *Bite* of a *Viper*.

2. *Bitters* preserve *fermented Liquors* from *Decay*. Our *Chyle* is preserved from *Putrefaction* by the *Bitterness* of *Choler*; and our *bitter Turpentine*s, as well as *Cedar* it self, preserve *dead Bodies* from *Corruption*; and we prevent *Gangreens* by *bitter Plants*; as *Roots* of *Gentian, Aristolochia*, *Leaves* of *Centaury, Rhue, Wormwood, Scordium*; and by *Myrrh, Aloes*, and *Meal* of *Lupines*: and we give inwardly *Treacle* and *Mithridate*; all which have a great *Bitterness*.

3. We use *Acrid Plants* inwardly and outwardly in *Gangreens*. By the *Scurvy*, as *Water-Cresses, Horse-Radish, Spirit* of *Scurvy-Grass, Mustard-Seed, lesser Celandine*, and *Garlic* or *Leek Pottage*. Outwardly, *Decoctions* of *Turnips*, and *Cataplasms*.

4. By

4. By the *acrid Aromatics* we sweat, and outwardly discuss *Humours*; as *Roots* of *Serpentariae*, *Contrayerva*, *yellow Flag*.

By *Spirit* of *Vine*, *Ulcers* are preserved from their *fætor*; and for the same end we use *spirituous Cordials* inwardly.

5. We use *vitriolic Styptics*, which are *corrosive*, also outwardly; as *burnt Alum*, *Sublimate*, and *Precipitate*, which, by their *Stypticity*, stop the *creeping Ulcer*; and by their *caustic Acrimony*, they deterge the *sordid Ulcers*, and separate the *dead Flesh*.

APPENDIX

APPENDIX I.

CHAP. XV.

Of FEVERS.

IN a Feverish State of *Blood* there happens a violent *Fermentation* of the whole *Mass* of *Blood*, as appears by the quick *Pulse*, the high-coloured *Water*, the *Alterations* of *Heat* and *Chilliness*. This sudden and great *Alteration* of the *Humours* the *Ancients* explained by *Putrefaction* of the *Blood*, or of *Choler*, or *Melancholy*, or *Pituita*. There are many other *Notions* framed for the explicating the Nature of *Fevers*, and their *Symptoms*; but I shall endeavour to explain more particularly the *Opinion* of the *Ancients*, and to accommodate it to the *Modern Hypotheses*.

That a *Fever* is a *Putrefaction* of the *Blood*, or some of its *Parts*, seems probable by the *fætor* of the *Sweat* and *Urin* in that
Disease,

Disease, by the infectious Nature of it, which lies in its *fætid Effluviūms*, which reduce the *Blood* of another *Animal* to the same State and Symptoms. None can deny the *Putrefaction* in the *Plague*, which putrefies all our *Humours* to a *mortified State*.

The *Petechiæ* and *purple Spots* shew *malignant Fevers*, and the *Small-Pox* and *Measles*, to be lower degrees of the same *Putrefaction*.

The *violent Heats* in ordinary *intermitting Fevers* produce a putrefactive Dissolution of *Humours*, which are thrown off in *Sweats*, and appear in the *precipitated Sediment* of our *Urin*, as well as by the Evacuation in a *Cholera*, *Diarrhæa*, *Salivation*, which are Symptoms of the *Fever*, the whole *Succus Nutritius* is dissolved from the *solid Parts*, as well as the *Mass of Blood*. Hence the *Body* becomes flaccid, and empty of Nourishment after long *Fevers*; and then we supply that defect by a nourishing Diet, ~~as~~ after the *Fever*.

Since there appears so much of a *Putrefaction* in *Fevers*, I think that Notion of the Ancient Writers ought to be inserted into the Definition of a *Fever*.

I shall next consider the Notion of a *Fever*, described by a *Fermentation*, or *Ebullition* of *Blood*, caused by some *extraneous Ferment*,

Ferment. And such a Commotion of *Blood* happens by *too high a Diet*, which stums or ferments the *Humours*; or else any of the *Humours*, which are naturally to be evacuated, being stopt in their *Expulsion*, become an *extraneous Ferment* to the *Blood*, or else the *Succus Nutritius*, as soon as it arrives at the *Blood*, is perverted by some *Dyscrasie* of it into an *extraneous, morbid* Nature, and becomes a *Ferment*, or else the *Nutritious Juices* are precipitated from the *Blood* by external *Cold*, and become the *ferment* of all *intermitting Fevers*.

The particular *Ferment* which produces each kind of *Fever* differs by some *Cacochymia* which was in the *Blood*, or *Succus Nutritius* before it was precipitated, by some abuse of the *Non-Naturals*, or *Surfeits*, or *Colds*, though the *Succus Nutritius*, altered by external Causes, is the general *ferment* of all *Fevers*; yet that differing, according to the several *Cacochymia's* that may happen to it, the *ferment* of each *Fever* (being the immediate Cause of its *Ebullition*, and the first thing to be removed or changed) ought most particularly to be described, because the *Cacochymia*, with which the *Succus Nutritius* abounds, produces the most eminent Symptoms of each *intermitting Fever*, and that *Cacochymia* does very
much

much alter the general Cure of an *intermitting Fever*. As for instance, If *Rheumatic Pains* accompany an *intermitting Fever*, the *Cacochymia* preceeding the *Fever* is a *viscid* State of the *Succus Nutritius*, and the *Blood* is *sizie*, as in *Rheumatisms*. In the Curing of this, the common Method for Curing the *intermitting Fever* is not sufficient, of giving the *Cortex* without due Preparation, viz. for the *Cacochymia* infecting the *Succus Nutritius*, there must preceed the *Evacuations*, indicated by a *viscid* State of *Blood*, viz. *Bleeding*, and *Purgings*, or *Vomiting*, but not so much as in a *Rheumatism*, without an evident *intermitting Fever*.

The Symptoms preceeding the Fit generally denominate the particular kind of *Fever*, and if great, the whole depraved *Succus Nutritius* being evacuated upon a particular Part, the Cure is chiefly to be managed by removing that particular *Inflammation*, as *Pleurisie*, or *Peripneumonia*, without any or very little regard to the *intermitting Fever*.

The Notion of a *Fever* being produced by the Irritation of the *Spirits* in the *Blood* and *Nerves*, very well explains the Action of the *Air*, and infectious of *Animal Humours*, for those are first infected; and that the febrile *Efferescence*, *Commotion*, *Ebullition*,

tion, *Expansion* (call it as you please, for the same thing is understood by all these Terms) is managed by the *Animal Spirits*, which circulate from the *Nerves* into the *Blood*, and from thence to the *Nerves* again, is very probable, and this *Galen* seems long since to have described, when he defines a *Fever* to be the turning of the innate heat (which is the *Spirits*) into a fiery Nature; but it is as evident, that every Person has some antecedent *Cacochymia*, by which the particular Symptoms of the *Fever* are produced, and this, by exceeding the Strength or Expansion of *Spirits*, makes the *Fever* malignant, or by being in no great quantity, or more loosely mixed with the *Succus Nutritius*, the *Fever* is mild, and easily cured. The several stages of the Disease are very naturally described by the separation of the greater quantity of the *Succus Nutritius* from the *Blood*, in the increase of the *Fever*, and the *Crisis* is a full or perfect Separation of all the depraved *Succus Nutritius* from the *Mass* of *Blood*, when the *Fever* is curable, and then the *febrile Effervescence* ceases; but if the *Succus Nutritius* be but in part separated, the *Mass* of *Humours* remain turbid and undepurated, and the *Fever* becomes fatal.

The *Spirits* being the chief Instruments of all *Fermentations*, the several Stages of this Disease must be managed by them; but we must look farther, and describe the *Humours* which irritate them first into Motion, and the depraved *Humours*, which the irritate *Spirits* endeavour to exterminate from the *Mass* of *Blood*, the Motion of the *Spirits* would soon be stopt, as we find in *Ephemera's*, if some depraved *Humour* in the *Blood* did not support the Irritation of them, who cannot naturally depurate the *Blood* under 14 or 21 Days, or longer. Hence it appears how reasonable the Opinion of our Moderns is, who describe a *Fever* as an *Effervescence* of the *Blood*, by which it clears it self of some *heterogenious Particles*, which, as they produce the *Effervescence*, are called a *Ferment*; and as they irritate the *Spirits* a *Venenum*; and as they are the depraved Matter of the *Succus Nutritius*, the *putrid Particles* of it, or *febrile Sediment*, appearing in the *Urin*. It is not my Design to oppose any Author's Judgment, but to reconcile these several Opinions, and put them all into the Definition of a *Fever*, thus.

A *Fever* is a preternatural *Fermentation* or *Effervescence* of the *Blood*, occasioned by some *Ferment* irritating the *Spirits* of the
Blood

Blood and *Nerves*; so the Dissolving, or Putrefying, and Separating some part of the *Cacochymical Succus Nutritius* from its Mixture with the *Mass* of *Humours*.

The tumultuous Agitation of the *Spirits* in the *Ephemera* happens by the ill Use of the *Six Non-Naturals*.

1. As *Surfeits*, which are Cured by a *Vomit*, *Purge*, *Clyster*, by which the putrefying Diet, which is the *Ferment* here, is carried off.

2. The *Heat* of the *Sun* being excessive inflames the *Spirits*; and *Opiates*, and cool things, readily compose them, and *Oxyrrhodines*.

3. Too much *Labour* spends and agitates the *Spirits*, in which case *Spirituos Cordials*, *Wine*, and *Rest*, are necessary.

4. *Anger* disorders the *Spirits*, whose furious Motions are best repressed by *Opiates*, and cool *Emulsions*.

5. Long *Watchings* require *Opiates* and *Anodynes*.

6. *Grief* agitates the *Spirits*, and spends them; for which, *Wine*, *Spirits*, and *Opiates*, are necessary.

The Cure of an *Ephemera*, which is a tumultuous Motion or Inflammation of the *Spirits*, requires these *Tastes*.

1. *Acids* in cool *Liquors*, *Sp. Nitri dulcis*, *Sal Prunell. Tamarinds*, *Gas Sulphuris*, or the *Juyces of Acid Fruits*.

2. *Mucilaginous* and watery *Liquors*, *Aq. Hordei*, cum *Syr. Limonum*, *Milk Waters*, *Emulsions*.

3. *Opiates*.

4. *Diaphoretics* of a mild Nature, *bitterish*.

5. *Styptics* watery to stop the *Fever*, *Plantane*.

Bleeding, *Purgings*, *Clysters*, *Vomiting*, *Quiet*, and *Abstinence*, or a thin *Diet*, often stop the *Effervescence*, by carrying off the fermenting *Humours*.

The Ancient Writers distinguished *putrid Fevers* by the *Putrefaction* of *Blood*, *Choler*, *Melancholy*, and *Phlegm*; and this is to be explained by an *Effervescence* happening in such a particular *Cacochymical Blood*.

The common *Fever* in *England* is an *intermitting Fever*; and that is the *putrid Fever* the Old Physicians have described, and this is produced by the *Changes* of our *Air*, the *viscid Nature* of our *Diet*, or the *infectious Vapours* of the *Earth*, and *Seas* encompassing us, which precipitate or putrefie the *Nutritious Juyces* of our *Bodies*, and that is evident in our *Urins*, and is the *Matter* of all critical *Evacuations*, by which the *Fever* is cured, and this supplies all the *Humours*

mours for *colliquative Evacuations* in *Fevers*; as *Diarrhæa's*, *Salivations*, *Sweats*, &c. This being evacuated upon particular Parts produces the several *Inflammations*; as *Quinsie*, *Apoplexies*, *Lethargies*, *Palsies*, *Pleurishes*, *Rheumatisms*, *Cholics*, which are the Symptoms of the ordinary *intermitting Fever*, and distinguish it into its several Species.

This depraved *Succus Nutritius*, by Nature's Method, ought to be fully separated from the *Blood*; but Physicians do not commonly trust that tedious way, but by the *Cortex* they precipitate what is easily separable of *Nutriments* by the *Urin*, and re-assimilate the rest of the *Nutritious Serum* to the *Blood*, as will manifestly appear by observing the several Changes of the *Urin*, and its *Sediment*; and we observe that *Bitters*, like *Choler*, are the best *Sanguifiers*, and also the best *Febrifuges*, and the *Cortex* has a most eminent *Bitterness*, not unlike the *Bitterness* of *bitter Almonds*, by which it re-assimulates part of the *Nutritious Juices* to the *Mass of Blood*.

I will mention the several *Cacochymia's*, which are only the several States of the *Nutritious Humours*, antecedent to the *febrile Effervescence*, by which, the several Species of the *intermitting Fever* are distinguished; but I must first observe, that the *intermit-*

ting Fever differs little from the *Ague*, but by having more of the *Succus Nutritius* putrefied, and precipitated from the *Mass* of *Blood*, and that so much of it is not sweat off by every *Paroxysm* in the *intermitting Fever*, as is in the *Ague Fit*, which makes the *Fever* less in the *Intervals* of the *Fit*; but the *intermitting Fever* often changes into the *Ague*, and is cured by the same Method.

First, If the *Fever* happens in the *bilious Cacochymia* of *Blood*, and in *Young Persons* in the *Summer* time, a *Causus* is produced, with extream *Heat* and *Thirst*, and in this the *Heat* and *Thirst* is much abated by *Acids*, and the *Fever* is to be treated by such Methods as respect both the *bilious Cacochymia*, and continued or *intermitting Fever*, whether the *Tertian Ague* has the same *Cacochymia*, and intermits every other Day.

The Cure of this *Cacochymia* indicates,

I. *Vomiting* in the beginning, and *Purging* on the Days of *Intermission*, with *Decoct. Amarum*, or *Glysters*, to evacuate the abounding *Choler*.

II. The *Choler* is to be precipitated from the *Blood*, by *Urin*, and *Sweats*, and the *Liver* opened.

I. By

1. By *Acids*; as *Crem. Tart.* \mathfrak{z} i. in *Chamomile Flower Posset-Drink*, given before the *Fit*, or *Juyce* of *Lemons*, with *Water* and *Wine*, or *Spirit* of *Sulp.* 20 drops in *Fountain-Water* or *Purslain-Water*, with *Sp. Sulph.* \mathfrak{z} ss. and *Syrup* of *Lemons*.

2. *Salso-Acids* are *Diuretics* and *Sudorifics*; as *Tart. Vitriol.* *Sal Armoniac.* *Arcanum duplicatum*, of any gr. xv. *Oc. Canc.* \mathfrak{z} ss.

Or the *Salt Mixture* of *Riverius*; as *Sal Absynth.* \mathfrak{z} ss. *Sp. Sulph.* gut. xii. *Syrup* of *Poppies* \mathfrak{z} ss. *Carduus-Water* \mathfrak{z} ij.

Or *Mixt Salts*; *Sal Absynth.* *Prunell.* *Antim.* *Diaph.* ana gr. xv.

3. *Bitters* have the same effect of *Sweating*, or re-assimulating the *Nutritious Juyces*; as *Aq. Plantag.* \mathfrak{z} ij. *Theriaca* \mathfrak{z} i. before the *Fit*, *Gentian*, *Centaury*, *Feverfews*, *Chamomile-Flowers*, *Chamædrys*, *Vervein*, &c. decocted, and given with *Myrrh* or *Mithridate*, before the *Fit*; these open the *Liver*, for the better *Passage* of the *Choler*; they also depurate the *Succus Nutritius*, and prevents its *Putrefaction* in *Fevers*.

Chelandine and *Saffron* are also useful in *Tertians*, by opening the *Liver*, and helping the *Secretion* of *Choler*, as is also *Dandelion*.

III. The *feverish Ebullition* may be suppressed by *Acerbs*; as Decoction of *Ribwort*, *Plantain*, or the *Juyces* of *Plantain*, *House-Leek*, *Sorrel*, *Purslain*, *Polygonum*; or by *Austeres*; as *Avens*, *Cinquefoil*, *Roots* of *Plantain*, *St. John's-Wort*, *Roots* of *Tormentil*, *Ulmaria Leaves*, *Juyce* of *Millefoil*, *Barks* of *Ash*, *Tamarisk*; but in general Use the *Cortex* has the greatest Commendation.

Alum is also much extolled; but repeated *Bleeding*, and all the Methods for Curing the *Cacochymia*, I constantly use before the Cure of the *Fever* by the *Cortex*, unless the Danger of Delay be great.

Outwardly we apply,

1. *Styptics*, *Nut-Tree-Bark* steeped in *Vinegar*, and *Mouse-Ear*, or *Shepherds Purse*, *Goose-Tansie* steeped in the same, with *Salt* applied to the *Wrists*.
2. *Opiates* externally as well as internally, *Ung. Populeon* ʒij . *Opium* gr. iv . *Spiders Web*, *f. a.* applied to the *Wrists*.
3. *Salso-Acids* externally as well as internally, *Sal. Gemm.* *Sal Armoniac.* and *Niter*, *Soot* and *Vinegar*, with *Spiders Web*, *Sea-Salt*, *Currans* and *Hops*, applied to the *Wrists*. Secondly,

Secondly, If an *intermitting Fever* happens in a *mucilaginous Constitution of Blood*, such as is in *Phlegmatic Persons*, Women, or Children, the *putrid Fever* takes the Type of a *Quotidian*, the *Paroxysms* last many Hours, and the Disease 40 Days or more, and a *Paroxysm* happens every Day, with great Cold, and the Heat is not very great afterwards.

In this *pituitous Dyscrasie of Blood*, we must vomit off the quantity of *Pituita*, and purge upon Intermissions, and the *pituitous Cacochymia* must be corrected by *Bitters*; as,

1. *Bitter Decoction*, *Wormwood-Wine*, *Myrrh*, *Juyce of Wormwood* one Spoonful, or *Juyce of Chamomile* in *Wine*, before the *Fit*, *Mithridate* or *Treacle* before the *Fit*, or *Carduus-Leaves* powdered. *Elixir Proprietatis* ℞i. *Aq. Lumbric.* ℥ij. before the *Fit*. *Radix Serpentariæ* ℥ss. externally. The *Stomach* may be fomented with *Gentian*, *Wormwood*, *Mint* and *Aromatics* boiled in *Wine*.

2. *Fixed Salts* and *volatile* evacuate the *Cacochymia*, both by *Sweat* and *Urin*. *Sal Absynth.* Sp. *Sal. Arm.* in *Aq. Card.* & *Theriac*.

3. *Aromatics*, *Sal volatil. oleosum*.

The external Applications are such as quicken the *Pulse*, and thereby keep off the Cold; as *Camphire*, *Soot*, *Saffron*, *Galbanum*,
Tur-

Turpentine with *Olibanum* and *Bole*, *Myrrh*, *Saffron*, *Aloes*, *Onion*, *Gun-Powder* and *Soap*, *Nettles*, *Rheu*, *Featherfew*, *Wormwood*, bruised together.

This *Fever* *Sylvius* calls his *Salivaris*, or *Pituitosa*.

Thirdly, If an *intermitting Fever* falls into a *tartareous Blood*, or *Lympha*, this *Fever* has *Gripes*, and *Pains* of the *Belly* attending it, a *low Pulse*, *little Thirst*, *crude* and *watery Urin*, but much *Cold*; for the *Curing* of which *Cacochymia*, *Vomits* and *Clysters*, such as are used in the *Cholic*, much conduce to discharge the *tartareous Lympha*, and for the correcting of it.

1. *Volatile Salts*.

2. *Distilled, aromatic Oyls*, which correct the *Chilliness* attending this *Fever*. *Oyl* of *Cloves*, *Mace*, or *Sal volatile oleosum*, with *Laudanum*, for the *Pains*.

Fourthly, If the *intermitting Fever* falls into a *flatulent, crude Blood*, a *Distension* is perceived in the *Belly*, or *Inflation*, *short Breathing* in the *Lungs*, and *wandring, nervous Pains* in the *Limbs*, with *Giddiness*, and *Noise* in the *Ears*. In the *Cure* of this *Fever* the *Flatulencies* must be removed, as well as the *Effervescence* suppressed.

Fifthly,

Fifthly, If a *Fever* happens in a *serous Cacochymia*, the *conglobate Glands* are affected, and the *Limbs* with *Lassitude* or *Pains*; the *conglomerate Glands* are also affected, as appears by *Dulness* of the *Head*, and *Sleepiness*; by *Coughs*, *Hoarseness*; and this *Sylvius* calls, *The Catarrhal Fever*, and the *Cure* of this requires, the *Evacuations* of the *Serum*, by *Purging*, *Urin*, *Sweating*, as well as the *Cure* of the *Effervescence*. *Errhines*, *Masticatories*, and *Fumes*, are useful.

Sixthly, If a *Fever* happens in a *rancid, oily State* of *Blood*, it produces a *scorbutic Fever*, with high-coloured *Urin*, and *Spots* in the *Skin*; and in this *Antiscorbutics* are as necessary as the *Febrifuges*.

Seventhly, If an *intermitting Fever* happens in a *stic, viscid Blood*, it produces *rheumatic Pains*, and all kinds of *Inflammations*; as the *Apthæ*, or *Inflammations* of the *Mouth*, the *Quinsie*, *Parotis*, or the *Inflammation* of the *Glands*; the *Inflammation* of the *Intestines*, or *Stomach*, or *Liver*, or *Spleen*, *Nephritis*, or *Inflammation* of the *Kidnies*, *Phrenitis*, or the *Inflammation* of the *Brains*, *Ophthalmia*, *Peripneumonia*, *Pleurisie*, *Inflammation* of the *Breasts*, the *Uterus*, or *Stones*, *Lethargies*, *Apoplexies*, *Palsies*, *Rheumatisms*, and all hot *Pains*. These

These are the Distempers attending *Fevers*, when the *Blood* is *sizie*, and that requires all the Methods proper for altering that, as well as stopping the *Fever*.

Eighthly, If the *Fever* happens in a *salt Blood*, it has great *Thirst* attending of it, and *Hæmorrhagies*, and runs into a *tabid State*. In this *Fever*, I observed a *Hæmorrhage* to preceed every Fit of the *intermitting Fever*; in Mr. *Schrimsher* of *Aquilate*, who, through an Aversion to the *Cortex*, lost his Life in it, and died *Convulsed* after divers Fits of the *Fever*, with a *Hæmorrhage*, which returned at a certain Hour.

Ninthly, If the *intermitting Fever* happens in a *vitriolic State* of *Blood*, all the *hypochondriac Symptoms* are joyned with the *Fever*, and the *Fever* appears under the Type of a *Quartan*: The Cure of which requires Evacuating,

I. Of the *vitriolic Humour* in the *Stomach*, by *Vomiting*, and *Purging* off the same on the *intermitting Days*.

II. The *vitriolic Humour* must be corrected,

1. By *Bitters*, *bitter Decoction*, *Wormwood Wine*, *Elix. Proprietatis*, *Myrrh*, with *Treacle*.

2. By

2. By *fixed Salts, Extract. Carduus* with *Salt of Wormwood*. Take *Conserve of Hips, Wormwood, Enula, Scurvy-Grass, Citron Pills*, of each ʒi . *Saffron* ʒij . *Sal Absynth.* ʒij . *Confectio Alcherm.* ʒss . with *Syrup of Citron*, make an *Elect.*
3. *Chalybeates* are absolutely necessary after the *Fever* is stopt, to correct the *vitriolic Humour*; and sometimes the *Fever* cannot be stopt till the *Humour* is corrected, as I have often experienced in my younger Son, who had the *Quartan* four Years by *Relapses*. No *Febrifuge* could put off his *Fit* till he had used *Steel* fourteen Days, or three Weeks, and the *Cortex* could do him no Service, nor would put off a *Fit*; at last, he having used at least a Pound of it, by often repeating of it, profuse *Bleeding*, as 40 Ounces of *Blood* from a Child of Nine Years Old, did more for the Cure of his *Ague* than all the *Febrifuges*, for his *Blood* was extream *viscid*, and *Steel* always cured his *Cachexy*. I gave him *Vitriolum Martis* sometimes, and Dr. *Willis's Steel* at others, dissolved in a convenient *Julep*.
4. The *Earthy Calces*; as *Antim. Diap. Bezoar Minerale*, with *fixed Salts* and
volatile,

volatile, may be reduced into *Pills*, with *Extract* of *Gentian*. The *Ashes* of *Oyster-shells* are good to correct the *vitriolic Humour*.

III. The *Paroxysm* must be checked or stopt,

- I. By *bitter Styptics*; as the *Cortex*. The reason of its inefficacy in the Dose, in which it was formerly given, is the Mixing of the *Chips* of the *Tree* with the *Bark*; and it is evident, that the *Bark* exceeds the Taste of the *Wood* in all *Trees*, and is of a stronger Virtue. Let therefore the *Apothecaries* keep the *Chips* for *Decoctions*, and use the *Cortex* only in *Powder*; for they well know, that the *Cortex* of *Guaicum* is stronger than the *Wood*.

Lignum Colubrinum, *Ash*, *Guaicum*, *black Cherry-Tree*, are much commended for *Quartans*; as are also *Myrtle-Leaves*, and *Mistletoe*.

Five-Leaved-Grass, *Potentilla*, *Avens*, *Plantain-Roots*, are austere.

2. By *Acerbs*; as the *Leaves* of *Ribwort* *Plantain* boiled in *Posset-Drink*, which cures some where the *Cortex* has failed. *Alum* is very much used, &c. in *bitter Decoction*, or with *Nutmeg*.

3. *Nau-*

3. *Nauseous Bitters* ; as *Carduus Leaves* 3fs. *Alum* ℥i. taken in *Ale* before the *Fit*, or *Myrrh* 3fs. in *Wine*, or *Treacle* 3i. before the *Fit*.
4. By *acid Terebinthines* ; as *Roots of Asarum, Valerian, Serpentaria*, Decoction of *Ivy-Wood*, and *Savin* applied to the *Pulse* with *Salt*.
5. By other *Acrids* of the *Orris Class* ; as *Zedoary, Ginger, Contrayerva* ; or other *acid Aromatics* ; as *Pepper, Radix Imperatoriæ* 3i. cum *Vino*, *Pepper* 14 grains in *Wine*.
6. *Fætid Acrids* ; as *Rhue* one handful, *Red Sage* as much, infused in *Wine*, and given before the *Fit*. A *Nutmeg* roasted in an *Onion*.
7. *Salso-Acids* ; as *Sal Absynth.* ℥ss. *Sal Prunell.* ℥ss. *Sacch. Perl.* ℥ij.

The *Acerbs* and *bitter Styptics* precipitate the depraved *Succus Nutritius* from the *Blood*, the *Acrids* and *Salts* throw it off by *Sweat* and *Urin*. A *Purge* given six or eight Hours before the *Fit* evacuates the digested *Succus*, and is successful after six or eight Months.

8. *Opiates* stop the *Pulse*, and all *Fermentations*.

9. The

9. The *Pericarpia* are of *Styptics* ; as *Bole*, *Mastich*, *Bursa*^{pastoris} and *Astoria*, *Knot-Grass*, *Argentina*.

Or *Acids* ; as *Vinegar* with *Gun-Powder*.

Or *Caustics* ; as *Nettles*, *Ranunculus*, *black Soap*.

Tenthly, If the *Fever* happens in a *Blood* putrefied, the several Sorts of *Malignant Fevers* are produced, with a low *Pulse*, feverish Symptoms, *Watching*, *Delirium*, *Convulsions*, and a sudden failing of the *Spirits*.

I. The *Spirits* being decayed, fixed, or oppressed, or weakened by *Evaporation*, become unfit to manage any extraordinary *Fermentation* ; for the *Depurating* of the *Blood* by an *Effervescence* from any of its depraved *Succus Nutritius* ; and, in this Case, all the Medicines against *Malignity*, which are of the following Tastes, are very necessary ; as,

1. *Volatile Salts* and fixed, *Cineres Bufonum*, Salt of *Vipers*.

2. *Acrids*, *Angelica*, *Zedoary*, *Imperatoria*, *Petasitis*, *Serpentaria Virginiana*, *Contrayerva*, *Aq. Ber. spec. liberantis*.

3. *Bitters* : decoct. *Amarum sine sena*, *Mithridate*, or *Treacles*, *Syr. of Carduus*, *Scordium*, *Veronica*, *Vervein*, or the *Juyces* or *Extract* of them.

4. *Fætidis*,

4. *Fætid*s, *Camphire*, *Garlic*, *Castor*,
Troches of *Vipers* *Flesh*, *Rhue*.
5. *Mineral Sulph.* and *Calces*, *Antimon.*
Diaph. Bez. Miner. Cinnab. Antim.
6. *Acids*, *Acetum Bezoardicum*, *Syr. of*
Citrons, *Spirit of Vitriol*.
7. *Salso-Acids* made by Mixing contrary
Salts.

II. The Second Species of a *malignant Fever* is from the *Translation* of the depraved *Succus Nutritius* upon the *Head* and *Nerves* in the *intermitting Fever*, which requires all manner of *Revulsion*; as *Bleeding* in the *Neck*, *Glysters*, *Blisters*, *Cataplasms* to the *Feet*; besides *Diaphoretics*, *Diuretics*, and *Cordials*, to support the *Spirits*, and the *Fermentation*.

III. The Third Species of a *malignant Fever* is from the *Infection* of the *Air*, whose *fætid Sulphurs* cause divers degrees of *Putrefactions* in several parts of our *Bloods*, and accordingly produce the several *epidemical, malignant or pestilential Fevers*.

1. In the *peteckial, spotted Fever*, and the *scarlet Fever*, or *Measles*, the *florid Particles* of the *Blood* are corrupted, or coagulated, or putrefied, and thrown into the *Skin*.

2. In the *Small-Pox*, not only the *florid*, but also the *viscid Particles* of the *Serum*
P are

are coagulated, and thrown into the *Skin* to putrefie, and be expelled. We observe in the *Small-Pox* a *sizie Blood*, as well as a *putrefactive State of Humours*; the *Siziness* makes it an *inflammatory Fever*, and commonly requires *Bleeding* before and afterwards. We keep a *thin* and *low Diet*, both in respect of the *Inflammation* and *Fever*. We use also Medicines against *Malignity*, because of the *Imbecillity* of *Spirits* in so great a *Putrefaction* of *Blood*, and that we may expell the *putrid Particles* of the *Succus Nutritius*. We use also, after the Expulsion of the *Succus*, *Febrifuges*, as the *Cortex*, to remove the *Paroxysm* of the *intermitting Fever*, joyned with the *Small-Pox* or *Measles*. And we ought to consider the several *Cacochymia's* which distinguish the Species of the *Small-Pox*.

3. In the *Plague* and *Poysons*, which putrefie the *Blood*, the whole *Mass* is putrefied; in this, a great Pain of the *Head*, with the greatest *Faintness*, seizes; a *stinking Breath*, *wandring Pains* about the *Emunctories*, *Heat* and *Cold*, are the usual Symptoms.

The *Bubo's*, *Carbuncles*, and *Petechiæ*, are *Particles* of the *Blood* drove into the *Skin*.

All things which preserve from *Putrefaction*, preserve from the *Plague*. As,

I. *Bleed-*

1. *Bleeding, and Purging with Aloeticks ; as Pil. Ruffi. Elix. Proprietatis.*

2. The Antidotes are,

1. *Bitters ; Extract of Gentian with Myrrh, Conserve of Tansie, Wormwood, Rhue with Diascord. Treacle, and Conserve of Wood-Sorrel.*

2. *Acids ; as Spir. of Sulph. Niter, Salt, Vitriol in Wine, Drink, or Broths, or Juyce of Limons, Rhue, Vinegar, with Bread and Butter. Posset-Drink with Acetum Bezoardicum. Juniper-Berries steeped in Vinegar.*

3. *Aromatic Acrids ; chewing Zedoary, Angelica, Mace steeped in Vinegar, Marigold-Flowers in Vinegar. In pure Bodies the Aromatics do Injury ; and to Infants vehement Dryers ; Camphorates, Myrrhates, and Bitters.*

4. *Fætidis ; Rhue, Vinegar, and Camphire, are to be smelt to, and Tobacco smoaked in the Morning, and the bitter Wine in the Morning, and a Sudorific Elect. at Night.*

Sulphur with Honey is accounted an excellent Antidote.

Salt-Peter and Sulphur correct the Air by their Fumes, or Gun-Powder, or Acetum Theriacale.

3. *Styptics ; as Bole, Tormentil, Pimpinella, Ulmaria in Wine.*

In the Summer, Young Men, take heed of hot things, and use *Acids* and *Styptics*, and moderately hot; as *Borrage*, *Balm*, *Saffron*, *Burnet*, *Citron Pills*, *Clovegilly-flowers*; or moderate *Aromatics* internally, and *Vinegar* with *Camphire*.

Aromatics inwardly are fittest for Winter and Old Persons; Oyl of *Amber*, *Bals. Peru*, *Nutmegs*. Outwardly, and in Fumes, *Pitch*, *Frankinsence*, *Assa Fætida*, *Turpentine*, *Myrrh*; and other resinous Plants. *Juniper*, *Cedar-Wood*.

All the *Bezoardics* above-mentioned are necessary to promote *Sweat*, and drive forth the putrefied Particles of the *Blood*.

The pestilent *Camp Fever* is from Eating of putrid Meats, which ought to be Vomited and Purged off, and after *Bezoardics* for the *Malignity*, or putrid State of *Humours*.

In all putrid Fevers Authors advise to respect the *Malignity*, as well as the *Fever*.

The continued *Fever* differs not from the intermitting, since it remits in the beginning, or intermits at length, and they frequently change from one to the other, and the depraved *Succus Nutritius* is the ferment of both; but in the continued *Fever* it is not so easily precipitated from the *Blood*, and discussed by a *Paroxysm*, as in the intermitting, and their Cure differs little.

1. All evident Causes of those Fevers must be removed.

2. The depraved Chyle, or its quantity, must be evacuated by Vomits, Purges, Clysters, that no new Matter may be supplied to irritate the Blood.

3. The Effervescence of Blood must be depressed if too high.

1. By a thin Diet, sub-acid or mucilaginous Ptysans.

2. By tartareous Acids, Syrups of Limons, Citrons, and Acid Spirits, or Quiddanies of Fruits.

3. By Acerbs, Tinct. of Roses, Plantain, Sorrel decocted, Sedum, Posset-Drink, Servises, Berberries.

4. By watery and mucilaginous Liquors; as Emulsions, Purslain, Lettuce-Waters. By the cichoraceous Plants; Barley-Water, or Milk-Water, or Whey.

5. Opiates.

6. By Bleeding, Glysters, Vomiting, Purging in the beginning.

4. The Effervescence of the Blood must be raised, if depressed through Weakness of Spirits, or multitude of corrupt Succus Nutritius, which stops the Circulation.

The Bezoardics above-mentioned excite a greater Effervescence.

5. The depraved *Succus Nutritius* must be precipitated from the *Blood* in the beginning, or increase of the *Fever*, by *Acids*, *Acerbs*, *Styptics*, which are the best *Febrifuges*: But the *Salts*, both *volatile* and *fixed*, best precipitate the *tartareous* Parts of the *Blood*, separated by a long *Effervescence* at the end of the *Fever*, and they separate it by *Urin* or *Sweats*; but the *Acids*, *Acerbs*, and *Styptics*, are good Precipitators of the *viscid Salt*, and *oily Particles*, which promote the increase of the *Fever*.

6. The disturbed *Crasis* or *Consistence* of the *Blood* must be restored; that is, some of the *Succus Nutritius* remixt with it into an equal *Consistence*, and that by digestive Medicines, which partly precipitate the looser *Particles*, and re-unite the rest. Such are,

1. *Bitter Acrids*; as *Theriaca*, *Rad. Serpent. Contrayerva*.

2. *Salso-Acids*.

3. The *Calces* of *Minerals*, and *testaceous Medicines*.

4. *Bitter Styptics*; as the *Cortex*, which precipitates, as is evident in the *Urin*, by its *Stypticity*, and digests, unites, or assimilates the depraved *Succus Nutritius* to the *Mass* of *Blood*, which, for want of a due Dose, separates again from the *Blood*, and renews the *Fever*.

That

That the *Succus Nutritius* depraved is the ferment of a *Fever*, is evident, because any *Animal, Nutritious Humour* depraved and suppressed, produces a *Fever*.

1. The *Milk* in the *Breasts* produces the *Febris Lactea*, which being repelled, or putrefying in the *Breasts*, is the ferment of that *Fever*, and is to be evacuated by a plentiful *Sweat*, or the *Lochia*.

2. The Suppression of the *Lochia* produces the *purple Fever* in Women, which *Langius* calls, *Pestis Sororum*; and this must be cured by Restoring the *Evacuation*; for the *Lochia* are here the ferment of the *Fever*; and by *Bezoardics*, the *putrid Blood* must be exhaled.

3. The Suppression of the *Menses*, or *seminal Matter*, produces the *Febris alba*, with *Pain* of the *Head, Stomach, Back*, and sudden *Effervescences* happen, with *Lassitude, Palpitation, Dyspnæa*, and *Inflation* of the *Hypochondria*. This is to be cured by restoring the *Evacuation* of those *Humours* which ferment the *Blood*.

4. The Suppression of *Transpiration* produces a *Fever*, with *Rheumatic Pains*, and till that *viscid Serum* is cleansed by *Urin*, or *Sweat*, that is the ferment of a *Fever*.

A *vinous* or *high Diet* is often the occasion of *Fevers*, and in this Case the depraved *Chyle* is the ferment.

Many of the *colliquative Fevers* are cured by Nature's Evacuation of the depraved *Succus Nutritius* by *Stools*, *Vomiting*, *Sweating*, or *Spitting*, *Bleeding*; and the reason of these different Evacuations, is, because the *Succus Nutritius* is tinctured by some of the *Humours*, which ought to be secreted by the *secretory Glands* for that *Humour*; as *Choleric Vomits*, or *Diarrhæa's*, are by the *Liver*; *Phlegmatic Evacuations* by *Salivation*, or *Pancreas*; and *critical Evacuations* of *Blood* by the *Nose*.

In *Inflammations*, the *Fever* preceeding it depends on a *viscid Succus Nutritius*, which being all evacuated on any particular part, the *Fever* abates, which sufficiently intimates what was the ferment of that *Fever*.

A *Hætic Fever* is produced by the depraved *Succus Nutritius*, which, by reason of the *Viscidty* and *Saltiness* of the *Blood*, cannot be assimilated to the *Mass*, but it becomes a *febrile Ferment*, and it is evacuated by *Sweats*, *Urin*, *Spitting*, and *Looseness*, and then the *Hætic Fit* is over, when the *Succus Nutritius*, which is the ferment, is wholly spent.

The

The *Matter* of an *Apostemum* is the *ferment* of a *Hætic*; as in those of the *Liver*, *Lungs*, *Kidnies*; and this *Hætic* cannot be cured, without curing the *Imposthume*; but the former *Scorbutic Hætic* must be cured by altering the *Viscidit*y and *Salt*ness of the *Blood*, by frequent *Bleeding*, and diluting of it, by *Milk Diet*, or the *Chalybeate Waters*, *Decoction* of the *Woods*, *Emulsions*, *distilled Waters*, and leaving off *fermented Liquors*, *Pectoral Decoctions*, and using a *thin Diet*, most apt to mix with *viscid Blood*.

When I had observed, that all sorts of *Cacochymia's* were joyned with *Fevers*, I could not omit this Discourse about *Fevers*, as not impertinent to my Design, of describing the preternatural State of *Humours*. I will farther observe, that the several *Cacochymia's* depend not on the *Fever*, as an effect of it, though that, after some time, may produce some of them; as a *viscid*, *salt*, *vitriolic* or *putrid* State of *Humours*: but the *Fever* finds the *Cacochymia* in the *Blood*, which produces the Symptoms preceeding the *Paroxysm*; as *Pains*, *Coughs*, *Vomitings*, *Gripes*, *Diarrhæa's*, &c. Hence it appears, that the antecedent *Cacochymia* depends on the same Causes, as at other times, when there is no *Fever*; but the *febrile Effervescence* agitates the *Cacochymia*,
and

and thereby produces the *Evacuations*, or *Inflammations*, to which it pre-disposed the Patient. And these Symptoms require the same Method of Cure, as at other times, but Care must be taken because of the Complication with the *Fever*, that nothing may be done in Cure of the *Cacochymia*, which may prejudice the general Cure of the *Fever*.

The *Cacochymia* alters the Nature of the *Fever*, for a *pituitous*, *tartareous*, *serous* or *flatulent* *Cacochymia* depresses the *feverish Ebullition* too much; and for these, the Old Authors rationally used *Digestives* in *Fevers*, to correct the *Cacochymia*, and to raise the *Fermentation*, which is depressed by them, that the *Succus Nutritius* may be more easily digested, or putrefied, and, at last, by a *Crisis* separated from the *Blood*.

In a *bilious*, *rancid*, *salt* or *putrid* State of *Blood*, the *Fever* is generally too acute, and (unless in the *malignant Fever* or *Plague*) must be depressed by cool *Alteratives*, which are the *Digestives* or *Precipitators* in such *Fevers*; and this seems to be a general Rule in *Fevers*, that as the general Cure of the *Fever* must not increase the *Cacochymia*, so neither must the Cure of the *Cacochymia* either too much
irritate

irritate or depress the *Fever* ; but by *Bleeding*, *Vomiting* or *Purging* in the beginning, we abate the quantity of the *Cacochymia*, and, by *Digestives*, dispose it for a Separation from the *Blood*, which, at length, the *Fever* expells, with the depraved *Succus Nutritius*, or, at least, prepares it for a *Purgation* afterwards, which ought to respect the particular *Cacochymia's* after the *Fever*, as well as before.

If we consider the various Causes of a *Cacochymia* above-mentioned, we cannot believe but every body is inclined to some one or other of them.

We have some particular degrees of *Fermentation*, by which our *Humours* are prepared that arise to a particular quality, by which the Constitution is called either *pituitous*, *tartareous*, *flatulent*, or *serous*, if they be too cool, or else they are too hot, as the *choleric*, or *scorbutic*, *salt*, *viscid*, *vitriolic* or *putrid* Constitutions of our *Humours*. We have some of these from our Parents, and the Age, as it runs on, produces a various Temper of our *Humours*. In Children, the *Blood* is like the *Milk* they feed on, apt to turn sower; and for that reason, *Vomitings*, *Gripes*, and *Loosenesses*, attend their *Fevers*, as well as *Coughs*,
and

and *sore Mouths*, and *comatous* effects from the *Serosity* of their *Bloods*.

In the Middle Age, the *Blood* is *florid* and *salt*, by which, they of that Age are disposed to *Hæmorrhagies*, and all sorts of *Inflammations*, *Consumptions*, and the *hot Scurvy*, which are frequently complicated with *Fevers* in the Middle of our Ages; as *Pleurisies*, *Quinsies*, *Phrensies*, *Rheumatisms*.

In the Consistent Age, the *Blood* grows *vitriolic*, and produces *Dysenteries*, *Cancers*, *Cholera's*, *Melancholic Winds*, which, with *Lethargies*, *Apoplexies*, *Peripneumonia's*, are frequently, at that Age, complicated with *Fevers*.

In Old Age, the *feverish Ebullition* runs low, and it is most easily stopt with a smaller Dose of the *Cortex*; and since the *Saltiness*, *Viscidities*, and *vitriolic Acidity*, abounds in Old Men, as well as the *pituitous* and *serous Cacochymia*, they have some of the Diseases depending on them; but especially *Catarrhs*, and *Atrophy*, and *Pains* of the *Limbs*, are complicated with the *Fevers* of Old Men.

Particular *Cacochymia's* are not only produced by our several Ages, but also the different Seasons of the Year incline us to different *Cacochymia's*.

The

The Winter disposes us to *Rheums*, *Pains*, and *Coughs*, which depend on too much *Serofity* retained, or stopt in the *Blood*; and the *Cold* checks the *Fermentation* of *Blood*, as well as other *fermented Liquors*, which hinders the thorough *Digestion* or *Fermentation* of *Humours*; from hence it appears, that Winter *Fevers* have *Coughs*, *Rheums*, *Pains*, and greater *Coldness* attending them, and are longer.

The sudden Alterations of *Hot* and *Cold* produces a *Sickness* of *Blood*, and makes the Spring attended with *Pleurisies*; *Rheumatisms*, *Apoplexies*, *Lethargies*, and *intermitting Fevers*, have then such Symptoms.

Cold is not so Injurious as the *Moisture* of the *Air*, which makes the Transpiration less, and the pressure of the *Air* also less; and, for this reason, *Fevers* frequently happen in *wet Weather*, with *Looseness*, *Heaviness* of the *Senses*, and many inward *Inflammations*; as *Apoplexies*, *Quinsies*, *Epilepsies*.

In the *Spring* far advanced the *Blood* becomes more *heated*, and *choleric*, and then *Tertians* and *Erisipela's* are complicated with the *Fever* and *Hæmorrhagies*.

In the *Summer*, the *Blood* is more *rancid*, *salt*, *viscid*, and *hot*, and produces the highest *burning Fevers*, with *Vomiting*, *Diarrhæa's*, and *Inflammations*, and *sore Eyes*.

In *Autumn*, the *Blood* is most *vitriolic*, on which, *Quartans*, *Melancholies*, *Dysenteries* and *Epilepsies* much depend on.

This is the chief Season for the *intermitting Fever*, with which the preceeding Diseases are frequently complicated.

Since the late severe, cold *Winter*, it has been observed, that the *Blood* has been more *sizie* than usual; and it is not improbable that such a *Cacochymia*, may last some Years in the *Blood* of all Persons, which may, upon the Fit of a *Fever*, produce the *Rheumatic Pains*, and *Inflammations* lately observed in *Fevers*. It seems probable, that after some time this State of *Blood* may be altered to another of a different kind, as a *putrid*, and then we must expect a *pestilential Fever*. If there be a common *Epidemical State*, or *Cacochymia* of *Humours*, (which the *common Changes* of the *Air*, or the *Seasons* of the *Year*, or the particular *Digestion* of our *Diet*, or some secret *Effluvia* of the *Earth*, or *Mineral Tinctures* in our *Water*, may produce) as we must observe by some common Distemper, which
feizes

seizes many every Year ; we may very well allow, that the same *Cacochymia*, which produces the *Epidemical Disease* every Year, should also occasion some particular Symptoms in the *intermitting, stationary Fever*, not unlike the Nature of the *Epidemical Disease*, as if that were complicated with the *Fever* ; so we may observe, that *Rheumatisms* have been frequent of late, and all our *Fevers* have *Rheumatic Stitches* very much.

It seems very probable, since the *Plague* visits us once in about Forty Years, which depends on a *putrid State of Humours*, that all the other *Cacochymia's*, which produce the several different kinds of *Fevers*, have also some kind of Revolution, in which they return also ; and when it is *mucilaginous*, the *Fever* is like a *Quotidian* ; when *tartareous*, it has *Cholical Symptoms* ; when *serous*, it is a *Catarrhal Fever* ; when *flatulent*, a *vertiginous Fever*, with *Windiness* in the *primæ viæ*, and *Running Pains* : but if the *Cacochymia* be *Choleric*, a *Tertian* is produced ; if *rancid*, oily, a *scorbutic Fever* ; if *viscid*, *Rheumatic Pains* ; if *vitriolic*, *Quartans* are produced. These several *Cacochymia's*, and their *Epidemical Disease*, and *stationary Fever*, both depending on the same, may be observed every Year ;

Year; and by keeping an exact Account, we shall, in time, find what *Cacochymia* and *Fevers* succeed each other, and in what periods we may expect their returns, though, it is probable, we shall never discover the general Causes which introduce the several *Cacochymia*'s, upon which all *Epidemical Diseases* depend.

APPENDIX

APPENDIX II.

*An Introductory Discourse to the
Treatise of the Asthma ;
containing an Explication of
the old Notion of the Deflux-
ions of Humours, whereby
the Asthma, and divers o-
ther Chronical Diseases,
are produced.*

ALL the Diseases which depend on
a sudden preternatural *Motion*, or
Flux of *Humours*, are produced
either by an *intermitting Fever*, or an *Ephes-
mera*.

That most Diseases may be Symptoms
of *Fevers*, does sufficiently appear to a di-
ligent Observer of the *Phænomena* of *Fevers*,
and they are described in the Books of our
Modern Writers.

Q

The

The particular *Cacochymia* in our *Humours* cannot produce the Symptoms of *Fevers*, without being rarified, impelled, or transmitted by *Defluxion* on some particular Part; and the Occasion of this *Flux*, the Ancients imputed to the *Intemperies* of some Parts, which was the *terminus à quo*, as the *Head* or *Liver*; but the true Cause of the *Defluxion* is an *Effervescence* in the *Blood*, and the *terminus à quo* is the *Blood* it self. The Vessels through which the *Flux* is carried, are, the *Veins*, *Arteries*, *Lymphatics*, and *Nerves*, and several *excretory Glands*. The *terminus ad quem*, is the Part affected with *sudden Pains*; as in *Rheumatisms*, or in *sudden Inflammations*; as in *Pleurisies*, *Quinsies*, *Peripneumonia*, &c. or *sudden Evacuations* of the *serous, nutritious Humours*, in *Vomitings*, *Diarrhæa's*, *Coughs*, *Sweats*, *Diabetes*, &c. or else by *Hæmorrhagies*; as *Hæmoptoe*, *Fluxus Mensium*; and most of the *Nervous Distempers* (like those of other *Glands*) depend on the Admission or Propulsion of *cacochymical Serum* into the *Nerves*; as in *Apoplexies*, *Lethargies*, *Carus*, *Epilepsies*, *Convulsions*, *Vertigo*, *Asthma*, *Palsies*, *Tympanies*.

All *Tumours* which rise suddenly depend on the *Defluxion* of *Humours* on that part in which they stagnate; as *Buboes*, *Erysipela's*, *Herpes*, &c. All

All the preceeding Diseases are frequently the Symptoms of an *intermitting Fever*, occasioned by the *Fevers* agitating, or impelling a particular *Cacochymia* upon some Part. If this *Cacochymia*, which disposed the *Blood* to that particular Symptom, be evacuated, or altered by the *Fever*, none of those Symptoms remain; but when the *Fever* is too soon suppressed, those Symptoms become *periodic, chronical Diseases*, or at least *Anniversary*, as appears in the *Asthma, Hemicrania*, and other *Pains, Inflammations, Convulsions, or Evacuations*, which have *periodic Fits*; or, at least, return upon the Changes of the Year, or when any external Causes, or hot Medicines, occasion an *Effervescence* in the *Blood*: Then the Symptoms of the former *Fever* appear; and the Cure of the *Defluxions*, depending on a suppressed *intermitting Fever*, is as followeth;

1. We must evacuate the particular *Cacochymia* by *Vomits* and *Purges*; and afterwards it is to be corrected by its particular *Specific Tastes*, which must either raise or depress the natural *Fermentation* of *Humours*.

2. The Disposition to a *Fermentation* must be stopt by a *Febrifuge*, as the *Cortex*, for that precipitates by its *Stypticity*, and

re-assimilates, by its *Bitterness*, the depraved *Nutritious Serum*, which is the immediate *Ferment* of *intermitting Fevers*.

A *simple Ebullition* of *Blood*, such as happens in *Ephemeræ's*, is sufficient to produce many *Defluxions* of *Humours*, in which there appears no *Putrefaction* of the *Succus Nutritius*, as in *putrid intermitting Fevers*, which we discern to be *putrid* by a *Precipitation* of a *high-coloured, thick Sediment* in the *Urin*, (which is of a *Brick Colour*, like *Blood* calcined, as Mr. Boyle observed) and we call the *Fever* *unputrid*, when the *Urin* is always *pale*, as in *Ephemeræ's*, without the former *Sediment*.

When only an *Ebullition* happens in a *cacochymical Blood*, the *Mass* is only agitated or rarefied, (in which is contained the *serous, salt Lympha*, the *Chyle* and its *Lympha*, and the whole *Succus Nutritius* of an *Animal*). This *chylous* or *serous Mixture* being lately fermented in the *Stomach*, is, of all the *Mass*, most readily fermented or rarefied; and, again, this *serous, nutritious Mass* is more readily circulated into the *Cutaneous*, or remotest Parts of the *Body*, than that *sanguineous* or *red Mass* of the *Blood*, or, at least, more easily secreted through the *Glands* and *Lymphatics*. This is the more immediate subject of an *Ephemeræ*, or rather an immediate

diate *Ferment*, or occasion of it, when it is an *irritated Ebullition* by inward Causes; as the Fulness, or *Acrimony*, of the *Cachymia*, or depend on the abuse of the *Six Non-Naturals*. This *nutritious Serum* is not colliquated by the *Fever*, as Authors affirm, (*liquatur & funditur*) for that is only the effect of a *pestilential Putrefaction*; and the *Serum*, by a violent *Effervescence* in an *intermitting Fever*, becomes more *viscid*, and *thick*, which disposes it to precipitate, and putrefie; whereas, in an *Ephmera*, the gentle *Heat* can only occasion an *Effervescence*, as to rarefie the *nutritious Serum*, and drive it through the several Strainers of the *Glands*, which are appointed for the several *Cachymia's*, with which it is saturated.

The Signs of these *Chronical Defluxions*, depending on an *Ephmera*, are, *pale Water*, like the *Healthful* at first, a gentle *Heat*, a general *Lassitude*, such as is observed in wet Weather, *Heaviness* in the *Head*, and an *Inclination to Sleep*, and great quantity of *Water*.

This *Effervescence* depends on the general Changes of the Year. The Alteration of the Weather then produces *irregular Fermentations* in our *Bloods*, as it does *Ebullitions* in *Wines*, and all other *fermented Liquors*; and also the Changes of the Wea-

ther at other times, when Rains succeed fair Weather, or the East or North Wind blows after warm Weather, which causes the same *Ebullition*, both in *Wines* and *Blood*; for by these, the Pressure of the *Air* is altered, the Transpiration of our *Bodies* is stopt, and the different degrees of *Heat* and *Cold* expand or check the *Rarefaction* of our *Spirits*, by which our *Bloods*, as well as all other *fermented Liquors*, are agitated, depurated, digested, or changed; and on these external Causes the sudden *Effervescence* of our *Humours* immediately depends; to which, the *Plenitude* of *Humours*, or their *vitious qualities*, *disorderly*, *hot Diet*, *too much Exercise*, *Passions*, or other Accidents, very much conduce, which also produce *Ephemera's*.

Those Parts of the *Body* are most usually affected with the *Flux* of *Humours*, through which *vitious Humours* ought to be evacuated, or to which the vitiated *Succus Nutritius* can most easily circulate, or where its Motion is most easily stopt, or most frequently, or the *Tone* of a Part vitiated by former Distempers.

Though the Occasion of the *Effervescences*, on which the *Defluxion* depends, be external for the most part, yet there is an inward Disposition in the *Blood* to an
Inflam-

Inflammation, which makes the *Blood* apt to impell its *cacochymical Humours* upon some Part. The several Species of these *Defluxions* I will enumerate, according to the Number of the several *Cacochymia's*, (which I have described in another Discourse of them) and their Complication with *Intermitting* or *Ephamera Fevers*.

First, If the *Blood*, abounding with a *pituitous Cacochymia*, effervesces, as in an *Ephamera*, it depurates its self from some of the *Lacteal Lympha* through the *Glands* of the *Mouth*, or *Lungs*, and, by that *Flux*, produces a *Catarrh*, or much *Coughing*, or *Spitting*, which is always complicated either with an *intermitting Fever*, or an *Ephamera*, which resembles the *Effervescence* in *Beer* or *Wine*, whereby they clear themselves of *Barm* or *Lees*.

I have observed a *Chin-Cough*, complicated with an *intermitting Fever*, which was cured by the *Cortex* after general *Evacuations*.

If the *pituitous Cacochymia* be transmitted to the *Stomach*, it produces *Nauseousness*, want of *Appetite*, a *pituitous Diarrhæa*, and *Cholics*.

If it is evacuated into the *Trachæa*, or stagnates in the *Vesiculæ* of the *Lungs*, it

produces a *Dyspnæa*, as in the *Cachexies* of Virgins; in whom also it produces a *Pale-ness* in the *Skin*, and frequently *œdematous Tumours*, when the *Pituita* suffers a *Flux*, according to the Notion of the Ancients; that is, when it is suddenly evacuated through the *conglomerate Glands*, or impelled on some particular Part where it stagnates.

Secondly, If an *Ephamera* be raised in a *tartareous, acid Constitution*, on a sudden, *corrosive Pains* are produced on the *Membranes*, with *Fluxes* of the *Lacteal Lympha*; as in *Pains* of the *Teeth*, and *Head*; or else *Gripes*, or *Pains* in the *Stomach*, are produced.

When the *Blood*, or *Chyle*, and *Lacteal Lympha*, are tinged with an *acid Caco-chymia* (whose chief vehicle they be) upon any accidental *Effervescence*, the *viscid Parts* of the *Serum*, or *sanguineous Mass*, may be precipitated by their own *Acidity*, (like *Milk* which is very *salt*, and turns into *Posset* by boiling); and such kind of *Coagulations* seem to happen in *Rheums*, *Fluxes* of *Urin*, *Dysenteria alba*, or in *scorbatic* and *melancholic Salivations*, or *Sweats*, or *Diarrhæa's*.

Thirdly,

Thirdly, If an *Ephamera* be produced by any external Cause in a *flatulent Cacochymia*, the *Blood* is tumultuously moved with *sudden Effervescences*, and a *crude or acid Windiness* distends the *Hypochondria*, as appears by a *Ructus* of the same Nature, *Wandering Pains* may be observed in the *Limbs*, *Noise* in the *Ears*, *Vertigo* in the *Head*; such are the Disorders which happen in *Hypochondriac* and *Hysterical* Persons, upon the least Occasion, which excites an *Effervescence* in their *Bloods*.

A remarkable Instance of *Windiness*, complicated with an *Effervescence*, may be observed in a *Priapism*, which always happens by the *Heat* of the *Bed*, by which the *Flux* of *windy Spirits* is made into the *Penis*; for such Patients usually complain of *Noise* in their *Ears*, of *numbing Pains* in the *Hands* and *Arms* in their *Sleep*, and their *Sides*, which goes off with a *prickling and tingling Pain* upon Waking; and as the *Erection* subsides, a *Noise* is heard in the *Belly*; and *Wind* breaks forth in a *Crepitus*, and a *Deadness* or *Numbness* remains in the Part, as well as many other Parts of the *Body*.

Fourthly, If the *Serous Cacochymia* be agitated by an *Ephamera*, *Tumours* happen in the *Limbs* suddenly, which are *pure*,
watery,

watery, hydropical Tumours, or else the *Serum* is suddenly evacuated into the *Cavities* of the *Head*, *Breast*, *Belly*, *Scrotum*, or *Testicles* of Women, of which, Cases are mentioned by the Ingenious *Carolus Piso*, de *Morbis à serosâ colluvie*; but he seems mistaken in this Description of the *Serum*, as if it were only *Aqua pura puta*, because the *Serum* contains the *nutritious*, *fibrous* or *caseous* Parts of the *Chyle*, as well as its watery Elements. *Piso* mentions an *Hydrocephalos* which returned by *Fits*, and that cannot but depend on an *Effervescence* in the *Blood*; it was cured by him by *Purges*, and a *Lixivium* to wash the *Head*.

He also relates a Case of *Sleepiness*, with *Pains* on the *Head*, depending on a *serous Blood*; and that increased towards Night, which was cured by an actual *Cautey* applied to the hinder part of the *Head*.

He mentions a *Carus*, with a *Fever* depending on the *Serum* passing the *Brain*, to which Children are most subject; this was purged off the Ninth Day; and he believes *Nocturnal Convulsions* to depend on the *Serum* impelled into the *Nerves*.

The *conglobate Glands*, designed for the Passage of the *Serum*, are frequently swelled by an *Effervescence* depurating or impelling the *Serum*; and when the *Urin*, which
ought

ought to be transcolated from the *Serum* by the *Kidnies*, is suppressed, a *Sleepiness* seizes the *Head*, or gripes the *Belly* from the *Serum* translated to that Part.

The great Quantity of *Serum* is usually imputed either to the Quantity of *serous* Diet, or the Retention of its *Evacuation*.

Fifthly, An *Ephamera* in a *bilious* State of *Blood* occasions the *Jaundices*, by a sudden Translation of the *bilious Serum* into the *Skin*, or else it is evacuated into the *Stomach* in a *Cholera*, or the *Intestines* in a *Diarrhæa*.

If the *Serum* be both *viscid* and *bilious*, it produces an *Erysipelas* with a *Fever*.

Piso describes an *Hemicrania*, which returns upon the Changes of the Year, and Alterations of the Weather, to wet, with Vomiting of *bilious Serum*, Inclination to Sleep, and Convulsive Pains in the *Belly*, and the Pains in the *Head* preceed those in the *Belly*; the *Pulse* and *Thirst* shew the *Fever*; and he concludes, *sudores sunt remedium Hemicraniæ, prophylacticum, & præcipuum, & seri evacuatione, curatur*. An exquisite drying Diet, and an *Oxyrrhodine* applied to the *Head* helps much.

Sixthly, In a *scorbutic*, salt *Blood*, a simple Effervescence produces the *scorbutic Spots*,
or

or *Blisters* in the *Skin*, which suddenly appear, and subside again, and all other *scorbutic Pains* depend on a sudden *Effervescence*, which make the *Urin* high-coloured.

In a *salt Blood* this simple *Effervescence*, usually called an *Ephemera*, produces divers *Pains* and *Inflammations*; as the *Tooth-Ach*, *Ophthalmia*, *Otalgia*, *Gout*, *nephritic Pains*, (which usually happen in Autumn) and a *Fever* usually goes along with all *Pains*, which excite *symptomatic Fevers*, and that is always referred to the Class of *Ephemera's*.

If the *salt Serum* be inclinable to stony or sandy *Coagulations*, an *Effervescence* of the *Blood*, tinged with that *Humour*, produces the *Gout*, and *stone Fits*. This *Effervescence* preceeds the *Gout* some Days, with a *Lassitude* in the *Limbs*, and *Heaviness* of the *Body*, and a *preternatural Heat*, *Watching*, *Thirst*, *Nauseousness*, and a *Dryness* on the *Tongue*. This *Effervescence* or *Fever* lasts usually 30 or 40 Days, which is the common Term of great *Fluxes* and acute *Fevers*. This *Fever* has *Exacerbations* towards Night, and remits in the Morning; but the Ingenious *Piso* thinks it to be *Febris imputris, synocha legitima, potius quam putris, quæ dolores arthriticos comitatur*.

The *Effervescence* in the *Blood* of Gouty Persons forces the *salt Serum* upon the ner-
vous

vous Parts of the *Joynts*, through their *Glands*, whereby the *acute Pains* of the *Gout* are produced, and the *convulsive Cramps* preceeding the *Fit*. The *Water* is *pale* in the beginning, and afterwards *high-coloured*, with *thick Sediment*.

The *Fit* of the *Gout* is cured as usual. *Fluxes* depending on an *Ephemera*, by *Bleeding* once or twice, by *Glysters*, and *Opiates*, and by a *thin, spare Diet* for the three first Days, or a *perfect Abstinence*; but afterwards *Water-Gruel*, *Chicken-Broth*, *Sack-Possiet-Drink*: After a Week, when the *Fever* and *Pain* decline, which will appear by the *Urin*. *Purging* agrees well, by some *Lenitive*; as *Decoct. Senæ*. An *Anodyne Poultefs* at first must be laid to the Part, and afterwards *Discutients* and *Nervines* are necessary.

For the Preventing the *Fit*, frequent *Vomitings* once in a Month, *Purging* with *Rhubarb* three Days before the Full and Change of the Moon, and three Days after them. A *spare Diet*, and *Abstinence* from all *strong Liquors*, with *moderate Exercise*, are absolutely necessary.

All *hot Arthritics* are *Injurious* in the *Fit*; as *Theriaca*, *Sp. C. cervini*, *Guaicum*: And it is a general *Errour* of *Practisers*, to prescribe *hot Specifics* during the *Effervescence*, which occasions a *Defluxion*; but they are
more

more properly used in the *Intervals* of the *Fit*, to correct the *Cacochymia*; and we find too long use of them occasions a new *Effervescence* and *Defluxion*. *Bitters* help the Digestion of the *Arthritic*; and Drinking *Bath-Waters* cures the *Saltiness* of their *Bloods*, or else *Asses Milk* alters the *Saltiness*.

Seventhly, If the *Serum* be both *salt* and *viscid*, and by any Accident effervesces, *Hæmorrhagies* are produced at the *Nose*, *Lungs*, *Arms*, *Womb*, which are accompanied with a *feverish Effervescence*. And we may observe, that *Bleeding*, the *Cortex*, *Opiates*, and cool *antiscorbutic Juices*, and Abstinence from fermenting *Liquors*, by abating the *Fever*, cure more successfully than any *Styptics* whatsoever.

If the *Effervescence* be in a *viscid Blood* only, it produces *Rheumatisms*, *Pains* of the *Hips*, *Shoulders*, *Loyns*, *Knees*, *Head*, as in the *Hemicrania*; but that of the *Muscles* generally is called a *Rheumatism*; but if it fall inwardly, it is a *Pleurisie*, or *Peripneumonia* when it affects the middle Region; if on the *Kidnies*, it makes a *Nephritis*; if on the *Brain*, externally a *Lethargy*, or more internally an *Apoplexy* on the *Nerves*, a *Paralysis* on the *Guts*, a *Cholic*, on the *Eyes* *Ophthalmia*, &c. In all the fore-mentioned Cases

Cases there is an *Effervescence* preceeding the *Pains* and *Inflammations*, as appears by the *Chillness* and *Shivering* which first seizes them in the beginning of those Diseases, which soon are succeeded by *burning Heats*, *high-coloured Water*, and *quick Pulse*.

Eighthly, A *febrile Effervescence* in a *melancholic* or *vitriolic* State of *Blood*, is the Occasion of the following Diseases.

1. *Hot Pains*, and *Windiness* in the *Stomach* and *Guts*, from a *hot Windiness*.

2. *Pains* in the *Spleen*, and *Sides*, and *Limbs*, from a *windy Spirit*.

3. In the *Nerves* the *windy Spirits* produce *Palpitations* of the *Heart*, want of *Sleep*, *Sinking* of the *Spirits*, and divers kind of *Convulsions*; as *Hysteric Fits*, *Epilepsies*, and all the *Inflations* of the *Nervous Parts*; in the *Asthma*, *Tympany*, *Ephialtes*, *Priapismus*. All which depend on a simple *Ebullition* of *Humours*.

The immediate Cause of the *Asthma*, is the *Constriction* of the *Trachæa*, or *Bronchia*, which streightens the *Passage* of the *Air*, and produces the *Wheezing*; and the *Vesiculæ* of the *Lungs* being also contracted, a *laborious Inspiration* is necessary to force the *Air* into the *Lungs*.

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There being no *Tumour*, *Inflammation*, or *Pain*, in the *respiratory Muscles*, they cannot occasion the *Asthma*; but in pure *convulsive Cases*, in which they often produce a *Dyspnæa*.

The *Fit* of the *Asthma* happens suddenly, through the *Efferescence* of *Blood*, occasioned by external Causes, which separate the *Lympha Lactea* from the *Blood*, and that stops in the *swelled Glands* of the *Lungs*, and is at length evacuated into the *Trachea*. In the *spitting Asthma*, and in the *Hysteric*, the *Serum* of the *Blood* seems to be forced into the *Nerves* by this *Efferescence*; or into the *Lymphatics* of the *Lungs*, where, by *Stagnation*, it may irritate the *Fit*.

Though the *Water* be *pale*, and the *Pulse* *low*, and the *Extremities cold*, yet the *Asthmatic Fever* is evident, for they have an inward Sense of *Heat*, and great *Restlessness* of *Spirits* in the *Fit*. *Cælius Aurelianus* observes, in his Description of the *Asthma*, the *Fervor Igneus*, and a *Color Morbidus*, though the *Asthma* is not always joyned with a *Fever*. I have observed the *Asthma*, frequently joyned with an *Inflammation* of the *Lungs*, or *intermitting Fever*, and at all other times with an *Ephemera*, which appears by the general *Lassitude*, *Oppression* of the *Breast* and *Head*, want of *Sleep*, *Thirst*, and those Causes which excite
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an *Ephemera*, produce the *Asthma*; as *extream Heat* or *Cold*, the *Dog-Days Heat*, in which *Wines* are apt to ferment; and whatsoever produces an *inflammatory Disposition* in the *Blood*, produces the *Asthma*; as *high Diet*, *strong Wines*, all *hot Pectorals*, or *Digestives*, or *anti-Convulsive Medicines*, *Steel*, or *strong Purges*; *hot Diaphoretics*, or *Febrifuges*, which, by exciting an *Effervescence*, increase, and produce the *Asthma*, and cannot cure it: But whatsoever cures the *Ephemera*, cures also the *Asthma Fit*; as *Bleeding*, *Clysters*, *Opiates*, *cool Pectorals*, with *Ol. Sulphuris*, *Sal Prunell.* *Gas Sulphuris*, *Milk-Waters*, *thin Emulsions*, *Ptyfans*. For the Preventing a *new Fit*, these Two Indications must be respected.

1. To cure the *mucilaginous*, *serous* and *flatulent Cacochymia* by *Vomits*, *Purgers*, and *Digestives* of *specific Tastes*, contrary to the mentioned *Cacochymia's*; as *Alteratives*, or *Diuretics*, or *Sudorifics*, as *Decoction of the Woods*.

2. To prevent the *sudden Effervescence* of the *Blood*, by avoiding *Fulness*, and *Variety* of *Meats*, and all *strong, fermented Liquors*, which produce frequent *Effervescences* of our *Humours*; and to remember *Piso's Caution*, *Parcissime Bibendum*; for after *Drinking* our *Horses* are most *Asthmatic*; and for Avoiding the *Watering* of them, we wet their *Hay*.

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Those cool *Febrifuges*, which cure the *Effervescence* in the *Fit*, seem proper to prevent the Return ; but we must not always rely on the *Cortex*, for that does not succeed so well in the *Spitting*, as *hysteric Asthma* ; but, in many Cases, a Draught of fair *Water* with a *Toast*, or a Draught of *Pectoral Drink* with *Gas Sulphuris*, three Days before the New and Full Moon, and three Days after them, maybe given in the Morning to prevent the *Fit*.

Sarsa Drink and *Lucatellus's Balsam* best cleanse the *Lungs* in the *spitting Asthma* after the *Fit*.

If an *Inflammation* of the *Lungs* be joyned with the *Asthma Fit*, *Bleed* three or four times, give *Emulsions*, *Pectoral Drinks*, *Oily Mixtures*, and *Laudanum*, and a *Decoction* of the *Cortex*, which may be mixed with that of the *Pectoral Drink* ; and *Gas Sulphuris* a Spoonful may be given in a Draught of *Pectoral Drink* to cool. After fourteen Days *Purge* with *Decoct. Senæ* and *Manna* ; after which repeat the *Laudanum* and *Cortex* again ; and, at last, for *Cleansing* the *Lungs*, *Lucatellus's Balsam*, and *Decoct. Sarsæ* ; and this Method I have found very successful.

All other *Asthma's* depending on the *Tubercula* of the *Lungs*, or *Collection* of *Matter*, *Serum*, *Blood* in them, or the *Cavities* of the *Breast*, as also that on the *Gibbosities*, or *ill Formation* of the *Thorax* in the *Rickets*, or
Tumours

Tumours of the *Viscera*, are improperly called *Asthma's*.

Though they produce an *Ephmera* by Stopping the *Nutritious Serum* in its Circulation, yet they have an evident Cause which requires to be removed before they can be cured.

Children subject to *Rheums*, with *scabbed Heads*, if that be ill cured or repelled, they become *Asthmatic*, with *Returning Fits* about the *Solstices* and *Æquinoctials*. In this Case all the Methods for *Scald Heads* must be used; as *Decoct. Sarsæ*, *Mercu. Dulcis*, *Bath-Waters*, *Sulphur Medicines*, *Vitriolic Waters*; but these generally dis-agree with the *Asthmatic*; and by giving them a *Catarrh*, produce the *Fit*; and much Drinking of *Fountain-Water* produces *Dropsies* in the *Lungs*, to which they are subject.

Ammoniacum Medicines, used to some Ounces, much help the *Viscidty* of a *mucilaginous Slime* in the *Lungs*; but that, and the *Cortex*, has failed me, when the *Blood*, by an accident, as the Use of the *Bath*, is made more than ordinary prone to an *Effervescence*; and all *high Diet* and *strong Liquors* make all *Specifics* ineffectual, till the *Aptitude* to an *Effervescence* be taken off by *Bleeding*, *Vomiting*, *Purging*, or, above all, by a *cool, thin Diet*, and Abstaining from *fermented Liquors*,

by which Method, my *Asthma* has intermitted three or four Months, which before was rather irritated by all other Medicines this Winter.

The Anointing the *Breast*, and keeping it hot, or rubbing it, and *Cupping-Glasses*, and all hot Medicines, were the Errours of the Ancients ; but, as the *Fit* declines, the *Pectorals* are necessary to deterge the *Phlegm* ; and the *Drymphagia*, which *Cælius Aurelianus* mentions, is very proper to help *Expectoration*. He commends *Acetum Scylliticum* before Meat, and *Nitre* with *Vinegar*, Decoction of *Hyssop* and *Figs*, *Pine-Nuts* with *Mulsum*, *Turpentine* with *Honey* or *Nettle-Seeds*, or *Cress-Seeds* with *Honey* or bitter *Almonds*.

He recommends *Travelling* or *Navigation*, the *Drinking Bath-Waters*. In *Italy*. they use *Theriaca Antidoti*. And he also recommends the cold *Immersion*, *Utilis consuetudo frigidi lavacri, quam Pseucrolusian appellant*. He mentions *Cataclysmus sive illisio aquarum superne iisdem locis, qui patiuntur*. But though the Pumping of the *Breast* may give the *scorbutic* or *hypochondriac* Symptoms some Ease, yet they rather do Injury for the future. He orders the *Asthmatic*, *Facere altioribus stramentis, thorace & capite sublevato, loco lucido atque calido mediocriter. Adhibitâ requie & abstinentiâ cibi usque ad tertium diem si vires permiserint*. He dislikes strong *Purges* of *Dia-*
grydium,

grydium, and the *Spurges*. He mentions *Castor* to be used in and out of the *Fits*, which probably they used for the *hysteric Asthma*; but that, I fear, cannot cure them without *Laudanum*, and the *Cortex*.

I believe the *Old Oxymels*, with proper *Evacuations*, have cured more *Asthma's* than the *Moderns*, by their *anti-Convulsives*; for the Notion of the *Asthma*, being a *Defluxion* of *Humours*, when clearly stated, gives very true and useful *Indications*; whereas the *Convulsive Inflations* are Symptoms of the *Effervescence* only; and all the Medicines designed for the Cure of the *Convulsive* Symptoms, by increasing the *Effervescence*, occasion more frequent *Fits* of the *Asthma*, and cure none.

Ninthly, An *Ephemera*, in a *putrid* State of *Blood*, produces the *Impetigo*, *Scab*, *Scald Head*, which are, by an *Effervescence*, thrown into the *Skin* Spring and Fall, as common Experience informs us.

The Cure of the *simple Effervescence*, which is generally called an *Ephemera*, though it sometimes lasts Thirty or Forty Days, is in the following manner.

I. By *Bleeding*: for *Vessels* full of *Liquors* are most apt to ferment; and, therefore, upon the Fermenting of *Wines*, we draw off some of the *Liquor*; and for Preventing the *Ebullitions*,

tions, some part of the *Vessels* is left empty ; and the same effect *Bleeding* has, which is done in proportion to the *Fulness*, and by that we check *Fluxes*, *Pains*, *Inflammations*, which depend on the *Ebullition* of our *Humours*.

II. By *Glysters* : at first the *fermenting Mass* in the *Guts* is drawn off, which resembles the *Lees* in *Wines*, that occasion frequent *Fermentations*.

III. *Specific Purges*, (after seven, eight, nine or fourteen Days) when the *Ebullition* remits, are necessary to evacuate the *Fulness* of some particular *Cacochymia*.

IV. All *Diuretics* ought to be cool ; as *Decoct. Pectoral*, *Rad. Graminis*, *Cichorei*, *Liquiritiæ*, *Decoct. Sarsæ*, *Chinæ*, *Ras. Eboris*, *C. cervini*, *Emulsions*.

All hot *Specifics* irritate the *Fever*.

V. *Ante-febrile Medicines* check the *Ebullition*. As,

1. *Styptics*, which hinder the *Ebullition* of *Blood*, as well as the *Fluxes* of *Humours*. *Decoct. Corticis* mixed with any *specific Decoctions*. The *Powder* of *Acorns* allays the *Pains* and *Inflammations* in *Pleurisies*.

2. *Acids*, *Ol. Sulph. cum Conserv. Ros.* *Gas Sulphuris*, *Sal Prunell.* in *Pectoral Drinks*.

3. *Opiates*, which suppress the *expanded Spirits*, that produce the *Nervous Inflation*s.

VI. All

VI. All *Pains* must be treated with *Anodynes*, and *Tumours* discussed, and *Fluxes* stopped by proper *Specifics*.

VII. The *Diet* must be *thin*, such as is in *Fevers*; or perfect Abstinence for one or two Days is very necessary to cure the *Effervescence*.

For the Preventing the return of these *Effervescences*.

1. The *Cacochymia* must be evacuated by *Vomits* repeated Monthly, or Quarterly; by *Purges* once in fourteen Days, and an *Opiate* the Night after; by *Bleeding* Spring and Fall; by a long use of *Specifics*, for the several *Cacochymiae*: And moderate *Exercise*, and a cooling, spare *Diet*, is necessary to prevent that *Fulness* of the *Succus Nutritius* which produces the *Ebullition* in *Chronical Cases*.

2. The *inflammatory Disposition* of the *Blood*, and its *Effervescence*, must be checked by the cool *Febrifuges* above-mentioned; by the *Decoction* of the *Cortex* at the Changes of the Year; or that of the Moon, when the *Fluxes* or *Fits* usually happen; or *Gas Sulphuris* for three Days before and after the Changes of the Moon, when the Alterations commonly happen in the Weather, which excites the *Effervescence*, and especially in the extream hot Time of the *Dog-Days*, when *Wines* are most apt to ferment, and when
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the *intermitting Fevers* begin; and, by the Observation of all *Asthmatics*, that is the worst time of the Year for the *Asthma*.

The *inflammatory Disposition* of the *Blood* is best cured by the cool *Juyces* of *Herbs*; as *Dandelion*, *Brooklime*, *Sorrel*, *Water-Cresses*, *Milk-Waters*, *Sarsa-Drinks*, *Whey*, *Milk* and *Water*, Abstaining from *Mault Drinks*, or by the cold *Immersion*.

3. The *Tumour* of any Part, or the *Obstruction* in its *Vessels*, or the *Weakness* of its *Tone*, must be cured, that it may become less subject to *Defluxions*.

4. All *external Accidents* must be avoided, which may excite an *Ephamera*; but chiefly *hot Diet*, *strong Drinks*, and *Tobacco*; and, if possible, all *fermented Liquors*, and *full Meals*; and *Changes of Weather*.

F I N I S.

